CHILDREN'S ONCOLOGY GROUP

The world's childhood cancer experts

The following guideline is no longer current and its recommendations may no longer be valid.
This document is provided for historical purposes only.
ARCHIVED: August 2025

Guideline for Fertility Preservation for Patients with Cancer

COG Supportive Care Endorsed Guidelines

Click **here** to see all the COG Supportive Care Endorsed Guidelines.

DISCLAIMER

For Informational Purposes Only: The information and contents offered in or in connection with the *Children's Oncology Group Supportive Care Endorsed Guideline*s (the "Guidelines") is provided only for informational purposes to children affected by cancer, their families and their health care providers. The Guidelines are not intended to substitute for medical advice, medical care, diagnosis or treatment obtained from doctors or other healthcare providers.

While the Children's Oncology Group tries to provide accurate and up-to-date information, the information in the Guidelines may be or may become out of date or incomplete. The information and guidelines may not conform to current standard of care, state-of-the art, or best practices for a particular disease, condition, or treatment. Some information in the Guidelines may be intended to be used by clinical researchers in special clinical settings or situations that may not apply to you, your child or your patient.

Special Notice to cancer patients and their parents and legal guardians: The Children's Oncology Group is a research organization and does not provide individualized medical care or treatment.

The Guidelines are not intended to replace the independent clinical judgment, medical advice, screening, health counseling, or other intervention performed by your or your child's doctor or other healthcare provider. Please do not rely on this information exclusively and seek the care of a doctor or other medical professional if you have any questions regarding the Guidelines or a specific medical condition, disease, diagnosis or symptom.

Please contact "911" or your emergency services for any health emergency!

***Special Notice to physicians and other healthcare providers**:* This document is aimed specifically at members of the Children's Oncology Group or Member affiliates who have agreed to collaborate with the Children's Oncology Group in accordance with the relevant procedures and policies for study conduct and membership participation. Requirements and restrictions applicable to recipients of U.S. governmental funds or restrictions governing certain private donations may apply to the use and distribution of the Guidelines and the information contained herein.

The Guidelines are not intended to replace your independent clinical judgment, medical advice, or to exclude other legitimate criteria for screening, health counseling, or intervention for specific complications of childhood cancer treatment. The Guidelines provided are not intended as a sole source of guidance in the evaluation of childhood cancer patients. Nor are the Guidelines intended to exclude other reasonable alternative care. Specific patient care decisions are the prerogative of the patient, family and healthcare provider.

Warranty or Liability Assumed by Children's Oncology Group and Related Parties: While the Children's Oncology Group has tried to assure that the Guidelines are accurate and complete as of the date of publication, no warranty or representation, express or implied, is intended to be made in or with the Guidelines. No liability is assumed by the Children's Oncology Group or any affiliated party or member thereof for damage resulting from the use, review, or access of the Guidelines.

The "Fertility Preservation for Patients with Cancer: ASCO Clinical Practice Guideline Update" guideline was endorsed by the COG Supportive Care Guideline Committee in November 2018. It is an update to the 2014 clinical practice guideline that was also endorsed by the COG and is now archived. The 2018 document and implementation tools provided by the guideline developers are available at: https://www.asco.org/practice-guidelines/quality-guidelines/guidelines/patient-and-survivor-care#/9661

A summary is published in the Journal of Clinical Oncology 2018 36:19, 1994-2001. http://ascopubs.org/doi/pdf/10.1200/JCO.2018.78.1914

The goal of this guideline is to provide oncologists, other health care providers and caregivers with recommendations regarding fertility preservation for adults, adolescents and children with cancer. The recommendations of the source clinical practice guideline are presented below. Note that recommendations 1, 4 and 5 are most pertinent to pediatric oncology.

Summary of Recommendations for Fertility Preservation for Patients with Cancer

RECOMMENDATIONS	Strength of Recommendation and Quality of Evidence
1.1 People with cancer are interested in discussing fertility preservation. Health care providers caring for adult and pediatric patients with cancer (including medical oncologists, radiation oncologists, gynecologic oncologists, urologists, hematologists, pediatric oncologists, surgeons, and others) should address the possibility of infertility as early as possible before treatment starts.	**No formal grading system used**
1.2 Health care providers should refer patients who express an interest in fertility preservation (and those who are ambivalent) to reproductive specialists.	**No formal grading system used**
1.3 To preserve the full range of options, fertility preservation approaches should be discussed as early as possible, before treatment starts. The discussion can ultimately reduce distress and improve quality of life. Another discussion and/or referral may be necessary when the patient returns for follow up after completion of therapy and/or if pregnancy is being considered. The discussions should be documented in the medical record.	**No formal grading system used**
Adult Males	
2.1 Sperm cryopreservation: Sperm cryopreservation is effective, and health care providers should discuss sperm banking with postpubertal males receiving cancer treatment.	**No formal grading system used**
2.2 Hormonal gonadoprotection: Hormonal therapy in men is not successful in preserving fertility. It is not recommended.	**No formal grading system used**
2.3 Other methods to preserve male fertility: Other methods, such as testicular tissue cryopreservation and reimplantation or grafting of human testicular tissue, should be performed only as part of clinical trials or approved experimental protocols.	**No formal grading system used**

ARCHIVED

RECOMMENDATIONS	Strength of Recommendation and Quality of Evidence
2.4 Postchemotherapy: Men should be advised of a potentially higher risk of genetic damage in sperm collected after initiation of therapy. It is strongly recommended that sperm be collected before initiation of treatment because the quality of the sample and sperm DNA integrity may be compromised after a single treatment. Although sperm counts and quality of sperm may be diminished even before initiation of therapy, and even if there may be a need to initiate chemotherapy quickly such that there may be limited time to obtain optimal numbers of ejaculate specimens, these concerns should not dissuade patients from banking sperm. Intracytoplasmic sperm injection allows the future use of a very limited amount of sperm; thus, even in these compromised scenarios, fertility may still be preserved.	**No formal grading system used**
Adult Women	
3.1 Embryo cryopreservation: Embryo cryopreservation is an established fertility preservation method, and it has routinely been used for storing surplus embryos after in vitro fertilization.	**No formal grading system used**
3.2 Cryopreservation of unfertilized oocytes: Cryopreservation of unfertilized oocytes is an option, and may be especially well suited to women who do not have a male partner, do not wish to use donor sperm, or have religious or ethical objections to embryo freezing. Oocyte cryopreservation should be performed in centers with the necessary expertise. As of October 2012, the American Society for Reproductive Medicine no longer deems this procedure experimental. *Qualifying statement*: More flexible ovarian stimulation protocols for oocyte collection are now available. Timing of this procedure no longer depends on the menstrual cycle in most cases, and stimulation can be initiated with less delay compared with old protocols. Thus, oocyte harvesting for the purpose of oocyte or embryo cryopreservation is now possible on a cycle day–independent schedule. Of special concern in estrogen-sensitive breast and gynecologic malignancies is the possibility that these fertility preservation interventions (eg, ovarian stimulation regimens that increase estrogen levels) and/or subsequent pregnancy may increase the risk of cancer recurrence. Aromatase inhibitor–based stimulation protocols are now well established and may ameliorate this concern. Studies do not indicate increased cancer recurrence risk as a result of aromatase inhibitor–supplemented ovarian stimulation and subsequent pregnancy.	**No formal grading system used**

ARCHIVED

RECOMMENDATIONS	Strength of Recommendation and Quality of Evidence
3.3 Ovarian transposition: Ovarian transposition (oophoropexy) can be offered when pelvic irradiation is performed as cancer treatment. However, because of radiation scatter, ovaries are not always protected, and patients should be aware that this technique is not always successful. Because of the risk of remigration of the ovaries, this procedure should be performed as close to the time of radiation treatment as possible.	**No formal grading system used**
3.4 Conservative gynecologic surgery: It has been suggested that radical trachelectomy (surgical removal of the uterine cervix) should be restricted to stage IA2 to IB cervical cancer with diameter <2 cm and invasion < 10 mm. In the treatment of other gynecologic malignancies, interventions to spare fertility have generally centered on doing less radical surgery, with the intent of sparing the reproductive organs as much as possible. Ovarian cystectomy can be performed for early-stage ovarian cancer.	**No formal grading system used**
3.5 Ovarian suppression: There is conflicting evidence to recommend GnRHa and other means of ovarian suppression for fertility preservation. The Panel recognizes that, when proven fertility preservation methods such as oocyte, embryo, or ovarian tissue cryopreservation are not feasible, and in the setting of young women with breast cancer, GnRHa may be offered to patients in the hope of reducing the likelihood of chemotherapy-induced ovarian insufficiency. However, GnRHa should not be used in place of proven fertility preservation methods.	**No formal grading system used**
3.6 Ovarian tissue cryopreservation and transplantation: Ovarian tissue cryopreservation for the purpose of future transplantation does not require ovarian stimulation and can be performed immediately. In addition, it does not require sexual maturity and hence may be the only method available in children. Finally, this method may also restore global ovarian function. However, it should be noted further investigation is needed to confirm whether it is safe in patients with leukemias. *Qualifying statement*: As of the time of this publication, ovarian tissue cryopreservation remains experimental. However, emerging data may prompt reconsideration of this designation in the future (this technique is already considered nonexperimental in some countries, and its experimental status is undergoing evaluation in the United States).	**No formal grading system used**

ARCHIVED

RECOMMENDATIONS	Strength of Recommendation and Quality of Evidence
Role of Health Care Providers	
4.1 All oncologic health care providers should be prepared to discuss infertility as a potential risk of therapy. This discussion should take place as soon as possible once a cancer diagnosis is made and can occur simultaneously with staging and the formulation of a treatment plan. There are benefits for patients in discussing fertility information with providers at every step of the cancer journey.	**No formal grading system used**
4.2 Encourage patients to participate in registries and clinical studies, as available, to define further the safety and efficacy of these interventions and strategies.	**No formal grading system used**
4.3 Refer patients who express an interest in fertility, as well as those who are ambivalent or uncertain, to reproductive specialists as soon as possible.	**No formal grading system used**
4.4 Refer patients to psychosocial providers when they are distressed about potential infertility.	**No formal grading system used**
Special Considerations: Children	
5.1 Suggest established methods of fertility preservation (eg, semen or oocyte cryopreservation) for postpubertal children, with patient assent and parent or guardian consent. For prepubertal children, the only fertility preservation options are ovarian and testicular cryopreservation, which are investigational.	**No formal grading system used**

ARCHIVED