Introduction
Parents may not be aware there are options for preserving fertility in their child diagnosed with cancer.

Parents may feel uncomfortable discussing issues of reproduction with their children.

Many adult survivors of childhood cancer feel fertility preservation and the ability to have a future family are important.

Understanding there may be fertility preservation options available and referring children and their parents to a timely manner reproductive specialist can improve their future quality of life.

Fertility Preservation—Where Does It Fit?

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Starting the Conversation
Discussing fertility preservation is important.

These key points can help start the conversation:

- Cancer and cancer treatment may affect your child’s fertility.
- Based on your child’s treatment plan, his/her risk of infertility is [high, moderate, low] (see table on reverse).
- There are options to try to preserve your child’s fertility before he/she begins cancer treatment (see figure to right).
- I can refer you to a fertility preservation specialist if you would like to discuss your child’s options further.

Options for Fertility Preservation
• The following diagram gives a brief description of fertility preservation options available to children diagnosed with cancer before and after treatment.

- There are several resources listed on the reverse that can help you and your patients locate a fertility preservation specialist to discuss tissue banking.

Fertility preservation options for children diagnosed with cancer

Before cancer treatment

- Discuss impact of cancer and treatment on reproductive health

Patient interested in fertility preservation?

- Yes
- No

- Refer to reproductive specialist
- Discuss fertility preservation options
- Proceed with treatment

- Proceed with treatment
- During cancer treatment

- Discuss tissue banking
- During cancer treatment

- Bank sperm

Egg banking

Before cancer treatment

- Able and willing to undergo ovarian stimulation?

- Yes
- No

- Obtain immature sperm or testicular tissue for banking

- Obtain mature sperm or testicular tissue for banking

- Before cancer treatment
- During cancer treatment

No

Yes

- Able to provide sperm for banking?

- Yes
- No

- Obtain immature sperm or testicular tissue for banking

- Bank sperm

- Obtain mature sperm or testicular tissue for banking

- Before cancer treatment
- During cancer treatment

No

Yes

- Discuss tissue banking
-银行精子

- Before cancer treatment
- During cancer treatment

No

Yes

- Able to provide sperm for banking?

- Yes
- No

- Obtain immature sperm or testicular tissue for banking

- Bank sperm

- Obtain mature sperm or testicular tissue for banking

- Before cancer treatment
- During cancer treatment

No

Yes

- Discuss tissue banking

*Not an option if there is a high risk of ovarian metastases.

*Experimental—only performed as part of a clinical study approved by an IRB.
Cancer Therapy and the Risk of Infertility

The following table classifies various cancer therapies and regimens based on their known infertility risk. While this table provides general guidelines, each patient is different and treatment may impair their fertility differently.

### Table

<table>
<thead>
<tr>
<th>HIGH RISK</th>
<th>INTERMEDIATE RISK</th>
<th>LOW RISK</th>
<th>VERY/LOW RISK</th>
<th>UNKNOWN RISK</th>
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</thead>
<tbody>
<tr>
<td>- Total body irradiation (TBI)</td>
<td>- Whole abdominal or pelvic irradiation 10 to &lt;15 Gy in pre-pubertal girls or 5 to 10 Gy in post-pubertal girls</td>
<td>- Testicular radiation dose &gt;1 Gy in boys</td>
<td>- Radiotoxic therapy</td>
<td>- Monoclonal antibodies, e.g., cetuximab (Erbitux), trastuzumab (Herceptin)</td>
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<tr>
<td>- Whole abdominal or pelvic irradiation 5 to 10 Gy in pre-pubertal girls or &gt;10 Gy in post-pubertal girls</td>
<td>- Whole abdominal or pelvic irradiation 5 to 10 Gy in pre-pubertal girls</td>
<td>- Testicular radiation dose &gt;1 Gy in boys</td>
<td>- Vinorelbine (Navelbine)</td>
<td>- Tyrosine kinase inhibitors, e.g., erlotinib (Tarceva), imatinib (Gleevec)</td>
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<td>- Transplant conditioning protocols containing procarbazine</td>
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<tr>
<td>- Surgical removal of both gonads</td>
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<td>- Radioactive iodine (131I)</td>
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<td>- Methotrexate (5-FU)</td>
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<td>- Vincristine</td>
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<td>- Interferon</td>
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<td>- Alkylating chemotherapy, e.g., cyclophosphamide, busulfan, melphalan</td>
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<td>- Protocols containing procarbazine</td>
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**Resources**

For more information about infertility risk and fertility preservation options for children diagnosed with cancer:
- Visit SaveMyFertility.org
- Call the FERTLINE: 866-708-FERT (3378)
- Use the online Clinic/Center Finder to find the fertility preservation center closest to you: http://oncofertility.northwestern.edu/find—a-clinic-or-center
- Visit the Pediatric Oncofertility Research Foundation: www.porf.org

**References**


The Oncofertility Consortium® is an international, interdisciplinary initiative designed to explore the reproductive future of cancer survivors. To learn more about fertility preservation, please visit SaveMyFertility.org for additional resources. To learn more about the Oncofertility Consortium, visit oncofertility.northwestern.edu.