

FEATURE STORY

At Diagnosis: Special Issues by Age

Whether you're diagnosed in your 30s or your 60s, age impacts what you do next

For Younger Patients: Fertility

Children and young adults face many unique issues during and after treatment, one of which is fertility. In the past, oncologists focused primarily on treating the cancer, leaving fertility issues often overlooked. But now, doctors are increasingly concerned with the impact of treatment on a person's life, including treatment-related infertility. Guidelines released in 2006 by the American Society of Clinical Oncology call for oncologists to address potential treatment-related infertility with all fertile patients—male or female—and, in the case of children, with their parents or guardians. Your oncologist should be prepared to discuss fertility preservation options or refer you to a reproductive specialist before treatment.

A single treatment can dramatically decrease fertility, so it is essential that your doctors develop a fertility-preservation plan before treatment begins. Keep in mind that cancer treatment usually must be delayed several weeks to accommodate fertility preservation methods, such as sperm banking or freezing fertilized eggs.

Prostate and testicular cancer therapies can affect sperm production, resulting in low sperm count or infertility. For men wanting to preserve fertility, banking sperm has been a successful technique for decades. If sperm count is low, a process called intracytoplasmic sperm injection requires only one sperm to fertilize an egg. Another technique called testicular sperm aspiration—where sperm is taken directly from the testicle or from resected testicular tissue—is being tested in men with low sperm count.

For women, certain chemotherapy drugs and hormonal treatments, as well as radiation to the pelvic area, can damage the ovaries and other reproductive organs and cause early menopause. Because women are born with a limited number of eggs, or oocytes, damaging them during cancer treatment can leave a woman infertile.

If treatment calls for radiation to the pelvis, the ovaries can be surgically moved away from the field of radiation, called oophoropexy, which reduces the risk of damage by 50 percent. Treatments that temporarily shut down ovarian function during chemotherapy, including Zoladex (goserelin), a hormone antagonist medication, are also being investigated as a means to prevent damage to eggs.

With in vitro fertilization (IVF), an egg is fertilized and frozen, or cryopreserved, until it is later thawed and inserted into the uterus. IVF must be done before treatment and may require several weeks to retrieve viable eggs. Hormone injections may be given to promote egg development, but natural methods are also available.

While freezing unfertilized eggs is possible, the success rate is lower than embryo freezing. Once thawed, the egg is fertilized by intracytoplasmic sperm injection and inserted into the uterus. Although freezing unfertilized eggs is considered experimental, better freezing and fertilization techniques are improving success rates. Researchers are also exploring ways to freeze testicular and ovarian tissue to be transplanted back into the patient after therapy.

Because many of these new fertility procedures are experimental, most are not covered by insurance and the cost can be as high as \$20,000. Even traditional IVF can cost around \$10,000 or more. Depending on your insurance, some treatments may be covered, especially if they are part of a necessary medical procedure being performed anyway.

For Older Patients: Comorbid Illnesses

Recent studies suggest at least half of people diagnosed with cancer already suffer from at least one other illness, or comorbidity, such as heart disease, diabetes, hypertension, or arthritis—some of which can be life-threatening.

The burden of cancer and comorbid illness falls most heavily on the elderly—a rising population in the United States. Comorbid illness affects all aspects of cancer care, from early diagnosis to treatment options and prognosis. In fact, with cancer patients living longer than ever, comorbid illnesses have an even greater impact on long-term health.

For you to get appropriate and effective treatment, you should be evaluated as a whole, including any other health issues you may have. The whole-patient approach is important in part because cancer drugs often have side effects that exacerbate pre-existing medical conditions, and drug contraindications can create other problems.

View Illustration: Considering the Tumor

Velcade (bortezomib), for example, is an effective drug used to treat multiple myeloma and mantle cell lymphoma, but it can also cause pain and numbness in the hands and feet—a condition known as neuropathy that may be made worse in diabetics, who are prone to nerve damage. Hormonal therapy, such as aromatase

inhibitors for breast cancer, may cause problems if you have osteoporosis. Aromatase inhibitors block the production of estrogen, but since estrogen helps maintain healthy bones, blocking it can lead to a higher risk of developing osteoporosis.

Other cancer drugs, including Herceptin (trastuzumab) for HER2-positive breast cancer and the anthracycline Adriamycin (doxorubicin) for leukemia and some solid tumors, are bad news if you have heart disease or hypertension, conditions prevalent among the elderly. These drugs can injure the heart muscle, so patients are monitored closely, and the dose of the drug may be limited according to your heart's function.

Side effects do not mean certain cancer drugs cannot be given if you have another illness. Instead your doctor may adjust the dosage of medication—both for the cancer and comorbidity—so you can receive the most effective cancer therapy.

In addition, elderly cancer patients should not automatically receive less aggressive therapy than younger patients. Despite the prevalence of comorbid illness and the perception that older people are less likely to benefit from and cope with the stress of potent treatment, clinical trials have shown that older patients fare equally well in terms of overall survival and quality of life as their younger counterparts.