Intervention	Definition	Comment	Considerations*
Males			
Sperm cryopreservation (S) after masturbation	Freezing sperm obtained through masturbation	The most established technique for fertility preservation in men; large cohort studies in men with cancer	◆ Outpatient procedure ◆ Approximately $1,500 for 3 samples stored for 3 years, storage fee for additional years
Sperm cryopreservation (S) after alternative methods of sperm collection	Freezing sperm obtained through testicular aspiration or extraction, electroejaculation under sedation, or from a post-masturbation urine sample.	Small case series and case reports	◆ Testicular sperm extraction – outpatient surgical procedure
Gonadal shielding during radiation therapy (S)	Use of shielding to reduce the dose of radiation delivered to the testicles	Case series	◆ Only possible with selected radiation fields and anatomy ◆ Expertise is required to ensure shielding does not increase dose delivered to the reproductive organs
Testicular tissue cryopreservation Testis xenografting Spermatogonial isolation (I)	Freezing testicular tissue or germ cells and reimplantation after cancer treatment or maturation in animals	Has not been tested in humans; successful application in animal models	◆ Outpatient surgical procedure
Testicular suppression with Gonadotropin Releasing Hormone (GnRH) analogs or antagonists (I)	Use of hormonal therapies to protect testicular tissue during chemotherapy or radiation therapy	Studies do not support the effectiveness of this approach	

*Costs are estimates S=Standard Intervention I=Investigational Intervention

Fertility Preservation Patient-Physician Discussion Points

- ◆ Cancer and cancer treatments vary in their likelihood of causing infertility. Individual factors such as disease, age, treatment type and dosages, and pre-treatment fertility should be considered in counseling patients about the likelihood of infertility.
- ◆ Patients who are interested in fertility preservation should consider their options as soon as possible to maximize the likelihood of success. Some female treatments are dependent upon phase of the menstrual cycle and can only be initiated at monthly intervals. Discussion with reproductive specialists and review of available information from patient advocacy resources (for example, FertileHope, the Lance Armstrong Foundation/Livestrong, the Susan G. Komen Breast Cancer Foundation) can facilitate decision-making and treatment planning.
- ◆ The two methods of fertility preservation with the highest likelihood of success are sperm cryopreservation for males and embryo freezing for females. Conservative surgical approaches and transposition of ovaries or gonadal shielding prior to radiation therapy may also preserve fertility in selected cancers. At this time (2006), other approaches should be considered investigational.
- ◆ Data are very limited, but there appears to be no detectable increased risk of disease recurrence associated with most fertility preservation methods and pregnancy, even in hormonally sensitive tumors.
- ◆ Aside from hereditary genetic syndromes and in-utero exposure to chemotherapy, there is no evidence that a history of cancer, cancer therapy, or fertility interventions increase the risk of cancer or congenital abnormalities in the progeny.
- ◆ Treatment-related infertility may be associated with psychosocial distress, and early referral for counseling may be beneficial in moderately distressed people.