

Preserving Your Fertility



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These are exciting times as we continue to help many couples achieve conception with ovulation induction, intrauterine insemination, and in-vitro fertilization. Many couples are also using non-traditional reproductive technology including the use of donor sperm, donor eggs, and gestational surrogates. Pregnancy rates continue to rise exceeding 80% per cycle in the case of oocyte donation and with embryo cryopreservation, many couples can return for 2nd, 3rd, and even 4th embryo transfers to help complete their families.

More and more, as reproductive endocrine specialists, we are seeing a group of patients who are or have utilized certain medications (chemotherapy). These are used for a number of conditions including cancer therapy, arthritis, and kidney disease and can be highly toxic to reproductive function. The likelihood of damage and/or permanent sterilization to the reproductive organs is dependant on the:

- Type of medication;
- Rate it is given;
- Cumulative dose;
- Age of the patient.

Pelvic radiation may also damage reproductive organs for both the female and male. Radiation to the female may damage the uterus preventing development of the endometrial lining or damage the DNA contained in eggs. This can result in miscarriage and birth defects. Radiation effects to sperm are similar.

Surveys of patients undergoing such treatments suggest that many are interested in having children, especially if childless at the time of diagnosis. Although not all treatment results in damage to the testis or ovaries, it is important that patients ought to be aware of their fertility options. First and foremost, we can offer counseling and psychological support to discuss:

- Effects of one's diagnosis on fertility;
- Potential effects of treatment;
- Fertility sparing options including:
 - § Possible use of medications to prevent damage to sperm and ovaries
 - § Surgical Transposition (i.e. moving the ovaries out of the field of radiation)
 - § Banking of sperm, oocytes, and embryo(s)
 - § Ovarian tissue banking
- Use of contraception during and immediately following treatment;
- The effects of cancer therapy on sexual desire and erectile function;
- The impact of stress;
- Monitoring a pregnancy with ultrasound and amniocentesis because of the increased risk of miscarriage and birth defects.



For the Male:

Male fertility is evaluated by performing a semen analysis. In most instances, freezing of sperm samples (usually two to three) can be done before treatment starts. Sperm

samples can be stored for future use should there be damage to testicular function during treatment. Determining sperm quality will help guide you for future treatments including intrauterine insemination(s) and in-vitro fertilization (IVF).

It is also recommended that semen quality is re-evaluated when treatment is complete to assess the possible effects of treatment on sperm quality and function and discuss what type of fertility treatment might be advised in the future.



For the Female:

Female fertility is evaluated through a blood test to assess ovarian function (quality of remaining eggs). Unlike sperm which is easy to obtain, oocytes must be harvested and inseminated with sperm in the laboratory (IVF). This procedure takes about 2 weeks to complete. The resulting embryos can be frozen and stored until you are in complete remission and healthy enough to become pregnant. Collaboration with

your physician is critical so as not to compromise your medical condition.

Though still considered an experimental technique, oocyte cryopreservation is one of the newest innovations in field of assisted reproduction. With a procedure called vitrification, this allows oocytes to freeze minimizing ice crystal formation.

Compared to previous methods of freezing, this has resulted in less damage to oocytes, which unlike embryos, are more prone to injury during the freezing and thawing process. This new technology potentially allows women to cryopreserve oocytes without a significant other and alleviates issues of identifying a sperm source.

Patients have concerns that treatment must be done immediately and that costs can be prohibitive for such care. Programs more often can accommodate scheduling needs and should work closely with your medical oncologist to expedite care. Costs are also not as prohibitive as one would think and programs including The Fertility Specialists Medical Group has partnered with Fertile Hope's "Sharing Hope" program to make this process affordable while undergoing these stressful times.