

Breakthrough expands options for infertile couples

by Tina Smith

Women needing assisted reproduction have a new alternative for preserving their fertility and starting families later in life.

Due to recent advancements in reproductive science, eggs retrieved from a woman's body can now be cryogenically preserved **before** fertilization and result in healthy pregnancies down the road.

Sperm has been successfully cryopreserved for decades and embryo freezing has generated pregnancies for 25 years, but freezing unfertilized eggs has met with only sporadic success until recently. The human egg is a delicate, comparatively large cell. In the past, attempts to freeze a retrieved female gamete turned the egg into a fragile, glass-like state. Most did not survive the thawing process. Those that did often suffered damage to the machinery responsible for distributing chromosomes equally during cell division, so very few pregnancies resulted.

Breakthrough research has now fine-tuned the cryopreservation process for eggs. A proven technology for egg freezing that was developed in one of the nation's most successful cryopreservation programs currently is being offered at Chattanooga's own Fertility Center. Pregnancy rates with the new method compare very favorably to success rates with frozen embryos, according to Reproductive Endocrinologist Barry Donesky, MD. In 2007, 42 transfers of frozen embryos at the Fertility Center resulted in 26 pregnancies for a success rate of nearly 62 percent. Similar success now is possible with frozen eggs, thanks to the Fertility Center's exclusive partnership with pioneers in egg freezing.

In order to maximize chances for success, couples participating in an IVF cycle typically would choose to fertilize all available eggs. Resulting embryos would grow in the laboratory for several days, and the two or three strongest embryos would then be placed into the woman's uterus for implantation. Any embryos not transferred would be frozen to allow future attempts at pregnancy without having to repeat the process of obtaining more eggs to fertilize. However, couples who become pregnant during their first cycle often have fertilized embryos that they don't wish to use,

especially if their initial pregnancy involved twins or triplets. The problem of what to do with “extra” embryos has been a continuing ethical dilemma for many.

Egg freezing offers several advantages with a limited number of eggs being fertilized and the remainder frozen. A few of the frozen eggs can be thawed and fertilized as needed with resulting embryos transferred for additional attempts at pregnancy. With this method, a couple need not take the chance of ending up with numerous fertilized embryos in the freezer. Frozen, unfertilized eggs can be discarded without the moral issues surrounding fertilized embryos.

Another group of women who can benefit from this technology are those who have not yet found a life partner or are otherwise not ready to conceive but are concerned about their decreasing chances for pregnancy after age 35 . Cryopreservation can suspend the biological clock for eggs, so to speak, and keep the quality of those eggs from diminishing while in frozen storage.

Additionally, cancer victims will have another way to safeguard their chances for motherhood before undergoing surgery, radiation or chemotherapy treatments that might damage the ovaries or even cause sterility.

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