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Can You Wait to Have a Baby?

Thanks to some headline-making fertility treatments, young women feel better about postponing pregnancy. But do these experimental methods hold more hype than they do hope?

By Sally Wadyka

■ Call it the great biological-clock catch-22: By the time you feel ready to have a baby, getting pregnant may not be as easy as it would've been when you were younger. At age 27, your ability to conceive dips, and after 35, your chances are 50 percent less than they were in your mid-20s. Yet because of career ambitions, difficulty finding the right man, and ambivalence about motherhood, more women are putting off starting a family. Proof: While birth rates among women in their 20s have fallen, first births for moms ages 35 to 39 have risen 36 percent since 1991; first births for women 40 to 44 surged 70 percent.

Sizing Up Our Sex Cells

A mature egg cell that has been released during ovulation measures an itty-bitty .003937 inches in diameter—20 times larger than a single sperm.

SOURCE: LYNN WESTPHAL, MD, ASSISTANT PROFESSOR OF OBSTETRICS AND GYNECOLOGY AT STANFORD UNIVERSITY SCHOOL OF MEDICINE

That's why recent media reports about new high-tech fertility treatments got many young women excited. A company called Extend Fertility, for instance, announced that it had started four egg-freezing clinics in the U.S., offering its services to any woman willing to pay around \$20,000 to put her eggs on ice. And in September, a daughter was born to a Belgian woman who had a section of her ovary frozen, then thawed out and reimplanted into her body six years later. The woman froze her ovarian tissue



This tank of liquid nitrogen is home to frozen eggs.

First births for mothers who are in their 30s and 40s have surged.

after finding out that she had cancer and needed chemotherapy, which can damage the ovaries and lead to infertility.

But don't breathe a sigh of relief about your fertility future just yet. The American Society for Reproductive Medicine has denounced the practice and the marketing of egg freezing and ovarian-tissue transplants to healthy women, saying that it's still too soon to tell if the early success can be duplicated. And many researchers are also urging caution. "Since so few babies have been born using these techniques, we don't know if they might cause genetic defects or any other side effects," says Owen Davis, reproductive endocrinologist at Weill Medical College at Cornell University and president of the Society for Assisted Reproductive Technology.

The message isn't that the treatments are bad—just that they're still in the proving stage. "It's possible that in a year, these newer methods will be recommended for healthy women who want to wait longer to have children," says Dr. Davis. To help you sort out this brave new world of baby-making, *Cosmo* looked into the latest fertility-extending options.

Freezing Your Eggs

For two decades, scientists have successfully frozen embryos (an egg that has been fertilized by sperm), resulting in thousands of healthy babies. And though the technology to freeze unfertilized eggs has been around since 1986, it's a much more complicated procedure than putting embryos in a deep freeze.

WHAT YOU'RE DYING TO KNOW ABOUT

As a result, the procedure has been limited to research settings and offered only to women about to undergo ovary-damaging chemotherapy. But with last year's opening of Extend Fertility clinics in Los Angeles, San Francisco, Dallas, and New York City, egg freezing has moved into the private sector and is now available to healthy women as well.

The theory behind it: Ice your eggs when they're in their prime—ideally before you're 35—and you can thaw them out when you're ready to be a mom (even up to your early 50s, when your age limits your ability to carry a pregnancy to term). Though only 80 women are in various stages of the process, Extend Fertility's CEO Christy Jones says that hundreds of others have expressed interest. "Most have been urban working women in their 30s who want kids but aren't quite ready to have a baby," she explains.

The process is not a simple one. First you undergo tests at the clinic to ensure that your eggs are healthy. After you're approved, you spend the next two to four weeks giving yourself daily hormone shots, which prod your ovaries into producing about a dozen mature eggs at once. (Normally, your body yields only one egg per monthly cycle.) "Once the doctor determines that enough eggs have matured, she inserts a needle into your ovary to retrieve them, after which they're stored in liquid nitrogen to stop them from aging," explains Lynn Westphal, MD, an assistant professor of obstetrics and gynecology at Stanford University School of Medicine and medical adviser to Extend Fertility. "It sounds painful, but patients are sedated while the eggs are harvested. The procedure lasts less than an hour, and women generally experience nothing worse than cramping and bloating before returning to work the next day."

The real question, however, isn't whether a woman can handle the hormones and needles—it's if her eggs will be able to endure the freezing process. "Eggs generally don't freeze well because they're made up of water and

fragile genetic material that tends to develop ice crystals, which cause them to break apart, while embryos freeze better because they're more robust," explains Michael Tucker, PhD, scientific director of Georgia Reproductive Specialists, in Atlanta. Should your eggs survive the ice, they still have to make it through thawing and fertilization, and then morph into a viable pregnancy. "Studies suggest that eggs recover well once they're thawed," says Tucker, who oversaw the first American frozen-egg baby in 1998.

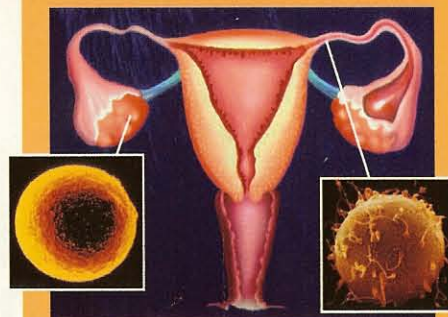
Prime candidates: Most clinics accept any woman between 18 and 35 who

passes the tests that make sure her eggs are in good shape. "Eggs from a woman over 35 aren't optimal; your body ovulates its healthiest eggs when you're younger, so the ones that are left might be damaged and are less likely to survive freezing," says Dr. Westphal.

Success rates: Extend Fertility cites a 20 percent live birth rate for women who freeze eggs in their 20s. But since no one is sure how many births have resulted—reports vary from 100 to 200 worldwide—there's not yet enough meaningful data to calculate the odds.

Cost: About \$3,000 for the fertility drugs, \$10,000 for egg retrieval and

9 Facts About Your Eggs



Left: An egg cell matures in the ovary, then is released during ovulation. Right: Sperm fighting to fertilize the egg.

abdomen. Known as *mittelschmerz*, it is caused by the actual rupturing of the egg's follicle—the sac in which it has matured.

5 The Pill doesn't protect them. Birth-control pills prevent eggs from being released but not from continuing to die inside your ovaries.

6 An orgasm can't shake one loose. Contrary to myth, even strong big-O contractions won't cause an egg to escape.

7 They don't always take turns. Each ovary has the same number of eggs, but they don't necessarily alternate ovulation every month.

8 In rare cases, two eggs will bust out of the ovaries in one cycle. If the eggs were fertilized, you would become pregnant with fraternal twins. Even more unusual is when one fertilized egg splits into two. The result: identical twins.

9 They like to synchronize. This happens when women who live near one another release hormonal signals that cause their cycles to sync up—so they ovulate in tandem.

1 You have 7 million eggs before birth and 500,000 by puberty. Once you reach your reproductive years, 1,000 eggs perish each month.

2 They're huge...by cell standards. An egg is the largest cell in the body and made mostly of water.

3 Entering puberty late doesn't preserve them. Whether you get your first period at 9 or 16, you'll still reach menopause in your late 40s or early 50s, because the vast majority of your eggs die before they can be ovulated anyway.

4 They let you know when they've been released. At the midpoint of their cycle, some women feel a sharp pain on one side of the

SOURCE: MITCHELL CREWIN, MD, ASSOCIATE PROFESSOR IN THE DEPARTMENT OF OBSTETRICS, GYNECOLOGY, AND REPRODUCTIVE SCIENCES AT THE UNIVERSITY OF PITTSBURGH SCHOOL OF MEDICINE

freezing, and \$40 a month for storage. Once you're committed to conceiving, you shell out another \$4,000 to unfreeze the eggs, have them fertilized with sperm, and implanted into your uterus. (If you use donor sperm, tack on another \$300.) Total cost: about \$20,000.

Egg Donation

If you don't want to freeze your eggs now, you have the option of securing someone else's later. "By age 45, it's very rare for a woman to have any healthy eggs left in her ovaries, and if she does manage to get pregnant, the miscarriage rate is about 50 percent," explains Sherman Silber, MD, director of The Infertility Center in Saint Louis and author of *How to Get Pregnant*. "A woman who gives birth after 45 is almost definitely using a younger woman's eggs."

Called egg donation, this motherhood method has been part of the reproductive revolution since 1983. A 2001 Centers for Disease Control (CDC) study found that 8 percent of in vitro procedures involved fresh donor eggs. But among women 45 and older, 76 percent relied on donor eggs. "A woman who uses donor eggs doesn't share any genes with her baby, but the embryo develops inside her," says Dr. Silber.

Here's how it usually works: A woman will go through a fertility clinic's registry (which contains data such as physical appearance and education level on each donor) to select an anonymous egg donor—who is usually between the ages of 21 and 32. Once chosen, the donor goes through the same hormone shots and egg-retrieval process as women who freeze their eggs do. Instead of these eggs being frozen, however, they're combined in a lab dish with the sperm of the recipient's partner or donor sperm. The two strongest resulting embryos are implanted into the recipient's uterus, which has been prepped for pregnancy via hormone injections.

Prime candidates: Premenopausal women who haven't been able to get pregnant. The typical recipient is in her late 30s or 40s. "She still may be getting



"A woman who uses donor eggs does not have a genetic link to the baby she gives birth to."

her period and her uterus is healthy, but her eggs are not viable," explains Alan Copperman, MD, codirector of RMA, a fertility clinic in New York City.

Success rates: About 47 percent of donor eggs that are fertilized and implanted into a woman's uterus result in a baby, according to the CDC study.

Cost: \$15,000 to \$30,000, including compensation to the donor (who nets \$3,000 to \$8,000 for her time and effort) and her drug and medical expenses, as well as the doctor's in vitro fee.

Ovarian Transplant

The most radical procedure on the reproductive horizon is ovarian tissue cryopreservation: putting a slice of a healthy, egg-rich ovary into a deep freeze, then implanting it back into the woman's pelvis later. "The idea is for the reimplanted ovarian tissue to resume ovulation, so conception can take its natural course," explains Marc A. Fritz, MD, chief of reproductive endocrinology and infertility at the University of North Carolina at Chapel Hill and chairman of the American Society of Repro-

ductive Medicine committee that advised against attempting this technique in healthy women.

To date, only one baby has been born using this method—to the Belgian woman who wanted to protect her eggs from damage during chemo. After 11 months, her baby was conceived without in vitro or drugs. (However, because the Belgian mom had signs of functioning in the ovary left inside her body, doctors concede that there is a small chance her baby developed from an egg released by that ovary.)

About 150 other women in Belgium are in some stage of an ovarian-tissue transplant. Though none have become pregnant, a similar procedure did result in a pregnancy: Doctors in Saint Louis removed an entire ovary from one 24-year-old woman and implanted it into her identical twin sister, who had gone through menopause at 13. The once-infertile twin then began ovulating normally; her baby is due this summer. "These techniques are still experimental, but their success shows that one day they may be used to postpone having children," says Dr. Silber, who led the ovary transplant surgery.

Even if banking a piece of your ovary does become a common practice for extending the shelf life of your eggs, it's still a major operation that carries health risks. "Harvesting ovarian tissue is much more invasive than harvesting eggs or undergoing in vitro with donor eggs," says Dr. Westphal. "It requires laparoscopic surgery and general anesthesia, both of which carry risks."

Prime candidates: Right now, tissue transplants are available only to women facing fertility-robbing chemotherapy or radiation. And the entire ovary transplant is still too risky to attempt on unrelated women whose ovaries are not a perfect DNA match, which increases the likelihood of organ rejection.

Success rates: With so few transplants attempted, it's just too early to tell.

Cost: \$18,000 to \$20,000 for an ovarian tissue transplant; \$5,000 to \$7,000 for an ovarian transplant. ■