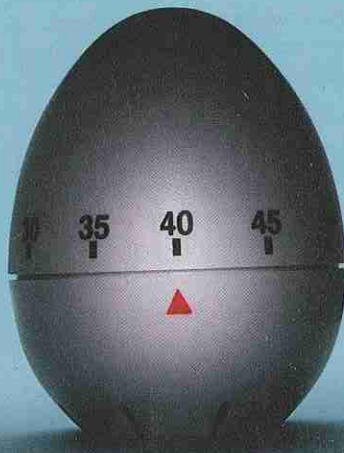


# Buying Time

Canadian women are waiting longer to have kids. Egg freezing is opening up new reproductive possibilities—and raising new questions. **BY KATE DALEY**



# It

**TOOK A YEAR** for Linda\* to make the decision to freeze her eggs. “I’d always known that I wanted a child of my own someday,” she says. “I had thought, I’m not that old, it’s not a big deal. But when I turned 38, I decided it was time to proceed.” Linda, a Vancouver-based financial professional who had recently left a three-year relationship, met with a doctor to discuss her options. A career in banking had consumed her for 18 years, and she hadn’t taken the time to travel or focus on her personal life. Because she was single and didn’t see herself having a child any time soon, she wanted to take steps to make sure she could still have biological children of her own when she was ready.

If Linda’s decision doesn’t seem radical, consider that just 10 years ago, freezing her eggs wouldn’t have been a viable option. Consider, too, that the idea of “social egg freezing” made headlines recently when Apple, Facebook and other companies agreed to cover the cost of their employees’ egg freezing even when it’s done for no other reason than to delay childbearing. ◻

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Doctors have had the technology to freeze women's eggs since the early 1980s, but the technique didn't work very well and the egg-survival rates were low. Because eggs were frozen slowly, they spent more time in a dangerous cold zone, where ice crystals could form. Many times, the eggs wouldn't survive the thawing process. "Eggs are very, very fragile," says Dr. Sonya Kashyap, medical director of Genesis Fertility Centre in Vancouver. While sperm freezes easily because it's mostly DNA, a woman's egg is at least 1,000 times bigger than the head of the sperm, it's 95 percent water and it carries all the "machinery."

So when vitrification was invented in Japan in the early 1990s, egg freezing changed dramatically. Dr. Dan Nayot, reproductive endocrinology and infertility specialist at TCART Fertility Partners in Toronto, explains the process as a rapid-freezing method whereby the egg is placed in a special "antifreeze" solution to help draw some of the water out so the egg doesn't burst when frozen. The solution is then cooled so quickly that water molecules have no time to form ice crystals, so the egg spends less time in the "danger zone." Vitrification allows clinics to freeze then thaw eggs with a survival rate of up to 90 percent. So far, the success rates are equivalent to in vitro fertilization (IVF): about a 40 to 50 percent chance of achieving a pregnancy, depending on the quality of the eggs.

### WHO QUALIFIES?

To determine eligibility for the vitrification process, a woman undergoes a series of blood tests, ultrasounds and general medical tests to check her ovarian reserve (the quantity and quality of her eggs). The recommended age limit is under 38, but doctors will review each woman's health and consider her age before confirming that she's a candidate. Then, similar to the stages of IVF, patients inject themselves with follicle-stimulating hormone, a naturally occurring hormone that, when taken at higher dosages, can help a woman recruit and develop more eggs.

When Linda began the process, she gave herself a daily hormone injection, then progressed to twice-daily injections. "You feel a bit like a pincushion," she says. Once her follicles were stimulated to an ideal level (follicles are monitored frequently with ultrasounds and blood work), her

doctor retrieved the available eggs from the ovary using a transvaginal ultrasound (a probe placed inside the vagina) and a guided needle. The procedure took less than 20 minutes and, though Linda was sedated, she found it fairly painful. "I don't think it was supposed to hurt, but it did," she says. "You can feel them pushing into the ovary to suction out the eggs." The eggs were then frozen and will be stored indefinitely for a fee until Linda chooses to create an embryo with a partner or a sperm donor and undergo IVF.

### WHY WOMEN ARE DOING IT

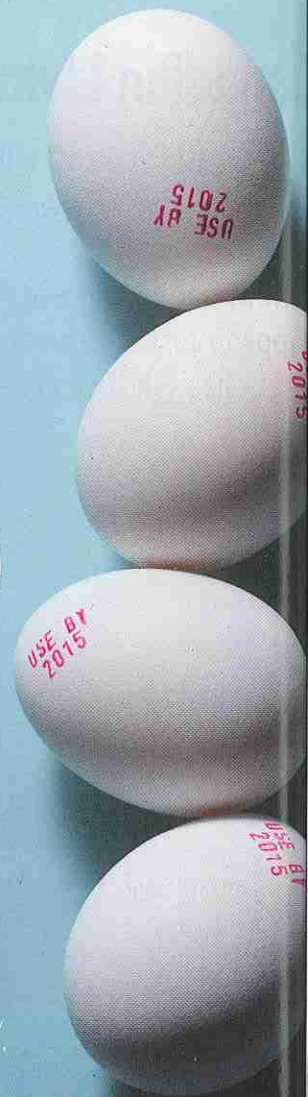
When it comes to fertility, a woman's age is the biggest factor. According to data from Statistics Canada, in 2010, the average age of mothers at childbirth was 30.1 (up from 23.5 in 1945). The current percentage of over-30 new moms is about two and a half times greater than it was in 1974.

So why are women waiting to have kids if fertility starts to decline after 30 and dramatically declines after 35? Statistics Canada reports that this delay in childbearing is in part due to more women in the workforce, more women seeking out higher education and improved methods of birth control.

Not being in a relationship is a prevalent reason these days, too, says Dr. Kashyap. "Commonly, women used to come to us for fertility preservation for cancer treatment," she says. "But now, one of the most common reasons is that women don't have partners." And even though she doesn't think it's fair to put pressure on women to have children when they're not ready financially, relationship-wise or career-wise, she does admit that the sooner women try to conceive, the better—naturally or otherwise.

Unfortunately, if you want to use your frozen eggs at 40 or 41, but they're not

A woman's egg is  
**95**  
percent water and  
1,000 times  
bigger than the head  
of a sperm, making it  
difficult to freeze safely.





viable when thawed, your alternatives are limited. However, if you try to conceive with your frozen eggs at 35 and experience challenges, there are more options, such as trying to retrieve more viable eggs.

"Most single women at 30 are optimistic," says Dr. William Schoolcraft, founder and medical director of the Colorado Center for Reproductive Medicine. "If I tell a 30-year-old that she might not get married until she's 43, she would be, like, 'Wow, you're a real downer.' It's nothing personal, but it might happen, so freeze your eggs now."

The reality is that many women, like Linda, wait until their late 30s because they haven't met someone with whom to have children. "Thirty-seven is the most common age that women come in requesting egg freezing," says Dr. Schoolcraft. "They're hitting the panic button, which is ironic because once their motivation is high and it's obvious they should freeze their eggs, they've probably already waited too long." Dr. Schoolcraft has also seen a woman's parents come in with her to discuss egg preservation. "Some parents want to give their daughter the money to freeze her eggs because they want grandchildren."

Linda's parents were both supportive when she told them she was going to freeze her eggs. Otherwise, only her close friends know. "I have a few friends who are the same age as me and single, too, and they wish they could do it," says Linda. "I think cost is the main deterrent." The process is expensive and generally not covered under provincial and territorial health plans unless "medically necessary," for example, in the case of those undergoing potentially sterilizing treatments for illnesses like cancer. The price tag comes in at around \$10,000:

“ I don't want to lose out on the ability to have my own child just because my life isn't on a conventional timeline. ”

\$7,000 for egg retrieval and freezing, not including the price of medications, and \$3,000 for IVF. In addition, there are storage fees of approximately \$200 a year, depending on the clinic.

### TIMING IS EVERYTHING

Even after the physical discomfort and expense of the process, egg freezing doesn't guarantee that women will be able to have children whenever they're ready. "When I counsel single women about fertility, I reinforce that the other reason to have a baby sooner—like, say, under 35, rather than at 45—is for them to consider what's in the best interest of that child," says Dr. William Buckett, director of McGill University Health Centre's Reproductive Centre in Montreal. Health complications that could arise from carrying a baby at an older age should be considered, including an increased risk of pregnancy-induced high blood pressure, diabetes, bleeding in the third trimester, placenta previa, chromosome disorder, low-lying placenta and having to deliver by caesarean.

Dr. Buckett adds that the risk of congenital birth defects, while marginal, also increases with both egg freezing and IVF. So while egg freezing is now a viable option and has resulted in the births of many healthy babies, Dr. Buckett cautions that it's far from ideal. "The general population needs to be aware that it's bet-

ter to get pregnant spontaneously than to get pregnant with eggs that are frozen and thawed." And because vitrification is relatively new, most doctors emphasize that clinics don't have reliable long-term data to prove success rates, as many patients have frozen their eggs but haven't returned to use them yet.

The egg-retrieval process itself also carries some risk. In about one in 1,500 cases, the high level of hormones used to stimulate the follicles can lead to ovarian hyperstimulation syndrome, which can result in hospitalization. The risk of bleeding, infection and injury is also present. "If we have a couple who has infertility, then we would accept these small risks for the benefits of a pregnancy," says Dr. Buckett. "If someone doesn't have infertility, then they're accepting these risks for a more nebulous benefit."

Despite the risks and the costs, for Linda, it was worth it. Having biological children someday is very important to her. "I've always wanted kids," she says. "I don't want to lose out on the ability to have my own child just because my life isn't on a conventional timeline. Hopefully, by freezing my eggs I've taken the steps to have my own biological child at some point."

This technology, though still new, is rapidly changing the face of reproductive choices in Canada. ●

*\*Name has been changed.*

### TIMELINE: The Science of Fertility

1978

The first in vitro fertilization (IVF) baby is born in England.

1984

The first baby is born from a frozen embryo (fertilized egg) in Australia.

1986

The first baby born from a frozen egg is reported in Australia.

2005

Canada's first baby from a frozen egg is born in Montreal.

2012

The American Society for Reproductive Medicine drops the experimental status on egg freezing.

2014

The Canadian Fertility and Andrology Society drops the experimental status on egg freezing.