

# THE SOBERING FACTS ABOUT EGG FREEZING THAT NOBODY'S TALKING ABOUT



IVF treatment sperm being injected into human egg.  Science Photo Library - ZEPHYR/Getty Images

A SELF-PROCLAIMED GEEK friend once described Silicon Valley as a place where instead of going to the movies to watch a film, everyone takes a seat in the theater and turns around to look at the projector. The Valley is home to cross-disciplinary teams of scientists, engineers, doctors and inventors who wake up every day wondering how they're going to master the impossible. When they have a prototype they find an equally enterprising storyteller to help them package and translate the benefits. Great things have been invented as a result.

This is also a place that falls in love with outsized expectations and dreams of what could be—sometimes to the detriment of early adopters. This could not be truer than in the area of reproductive medicine. It has been 36 years since the birth of the first in vitro fertilization (IVF) baby. We've since been led to believe that science has mastered Mother Nature. This is not true. I know. I am a former patient of three clinics in the Bay area, all of which were happy to sell me services as long as I could pay the bill. I had multiple fresh and frozen embryo transfers. Instead of taking home a baby, I came away with tremendous heartache. And my experience is not unique.

Around the world, there are an estimated 1.5 million IVF procedures each year, and 1.2 million fail.

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### ABOUT

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The very latest whizzy reproductive ‘product’ being marketed and wrapped into lucrative employee benefit packages at companies like Apple and Facebook is egg freezing. Lost in all the cheerleading about empowerment and liberating women from their biological clocks is a more buzz-killing, underreported set of facts, which women and families would benefit tremendously in understanding. The American College of Obstetricians and Gynecologists and the American Society for Reproductive Medicine (ASRM) do not endorse the use of egg freezing to defer childbearing. The ASRM’s decision to lift the ‘experimental’ label from this still young procedure in 2012 only applied to medically indicated needs, such as women with cancer.

Moreover, there is no long-term data tracking the health risks of women who inject hormones and undergo egg retrieval, and no one knows how much of the chemicals used in the freezing process are absorbed by eggs, and whether they are toxic to cell development. Furthermore, even with the new flash freezing process, the most comprehensive data available reveals a 77 percent failure rate of frozen eggs resulting in a live birth in women aged 30, and a 91 percent failure rate in women aged 40.

### **The Numbers and Risk Profile**

Egg freezing is invasive and it comes with serious short- and long-term physical and mental health risks.

To secure any eggs you must first submit to a demanding series of rigorously scheduled blood tests, hormone injections, and ultrasounds conducted over several weeks prior to the actual egg retrievals. During a typical natural cycle, your body will release one egg a month. During the egg freezing process you will inject yourself with

a cocktail of powerful hormones—many prescribed off-label – that hyper stimulate your ovaries to produce eggs.

Depending on your age and reproductive health you may only generate a few eggs or you might produce two dozen. (As many as one-third of women who undergo ovarian stimulation suffer from a condition known as ovarian hyperstimulation syndrome (OHSS), which in extreme cases, can be life threatening.)

After nine to 13 days of self-injection, usually twice daily, you will submit to the risks of sedation while a doctor collects the eggs by punching a series of holes into your ovaries and applying suction. If you have exceptional egg quality and produce six eggs in one cycle, there will probably be one reasonable attempt at pregnancy. To increase the odds of sufficient viable eggs to fertilize, egg freezing businesses advise at least two cycles. Assuming unlimited financial resources or a generous benefit package you may endure multiple cycles. With each round of powerful hormones and punctured ovaries the risk of complications and long term health consequences increase. Once flash frozen, your eggs are stored indefinitely for an annual fee ranging from \$500 to \$1,000.

Fast forward many months or even years into the future. You now attempt to get pregnant with your frozen eggs. Hopefully you have sufficient savings, or are still employed by Facebook or Apple, because you must now undergo at least one, but probably multiple rounds of invasive and life-altering in vitro fertilization (IVF) procedures.

You must again inject yourself with hormones, this time to prepare your uterus to welcome a potential embryo. You must open your entire emotional, social and professional schedule to daily blood tests, ultra sounds, vaginal probes and other assorted procedures that experienced women have referred to as “humiliating.” I can attest to this.

If your uterus responds to the hormones, the frozen eggs must then be successfully thawed---no easy task given low thaw survival rates. An egg’s shell hardens when frozen in liquid nitrogen so to attempt in vitro fertilization sperm must be injected directly into the egg with a needle to fertilize the egg through a technique known as ICSI (Intracytoplasmic Sperm Injection).

Again, if all goes well and at least one viable embryo is created in the laboratory, it is then transferred into your uterus. As with naturally occurring conception, the final

outcome is in Mother Nature's hands---and she is clearly not incentive driven. The vast majority of procedures fail.

## **The Emotional Toll and Lack of Oversight**

The emotional toll associated with family-building failure can be crushing. The scientific fascination with the latest protocol and the marketing of fertility procedures as a lifestyle enhancer the past few decades has unwittingly led to a disregard for the emotional responses of these medical procedures, which creates a different kind of health concern – one involving mental health. Studies have shown that people coping with fertility failures are as distressed as cancer patients. Many others suffer depression and post-traumatic stress disorder.

These negatives are conveniently overlooked by those selling services. You will not find failure rates or the harmful impacts highlighted in brochures or on clinic websites. In the U.S. this unregulated industry's nickname is the Wild, Wild West of American medicine.

This lack of oversight has emboldened the more entrepreneurial doctors and service providers and led to mixed messages. While the ASRM's practice committee advised that "there was still not enough known about the egg freezing procedure's safety, efficacy, cost-effectiveness, and emotional risks" and cautioned against the widespread use because it may "give women false hope and encourage women to delay childbearing," the ASRM annual meeting, held this week in Honolulu, included this session: *Fertility Preservation Patients: How to Re-engineer your Practice to Accommodate Them*. It was conducted not by an M.D., but by someone with an MBA.

This meeting boasted the slogan: "Surfing the Waves of Change in Reproductive Medicine," with a program cover showing a silhouette of a lone woman surfing big waves. The subliminal message suggesting that reproductive medicine is fun and carefree could not be further from the truth, as my own experience exemplifies. After my IVF trials failed, none of the clinics bothered to follow up to find out how I was doing, not even after the loss of alpha pregnancies. They were too busy selling to the next consumer — complete with collateral boasting pictures of women cradling babies. The unrelenting focus on commercial returns means there are no consumer protections in place for the customers buying these expensive services. When it comes to reproductive medicine it is buyer beware.

There is big money to be made in selling dreams of parenthood. A report by Allied Analytics LLP estimates that the net worth of the IVF market at the end of 2012 was US \$9.3 billion, a figure that is estimated to increase to \$21.6 billion by 2020.

Commercial clinics have become cash cows. In an article on reproductive technology, a business journalist and former egg donor reported that universities with medical school programs often host reproductive endocrinology departments that make enough money from IVF treatments to fund entire schools within the university. Generally, fertility doctors are among the highest-paid employees at private universities.

Yet if pay for performance (as in live births) were the metric by which they were paid there would be much smaller pools of capital available.

## **The Bottom Line**

Today service providers and clinics cavalierly market egg freezing to fertile women without fully understanding or communicating the risks. Though I am neither for nor against egg freezing as an idea, I believe strongly that women must be fully informed about reproductive medicine before setting their hopes on it. Facebook and Apple and all companies would do well by their employees to hold fertility vendors to the highest possible standards and not inadvertently put worker's physical and mental health in jeopardy. Unlike smartphones or apps that can be recalled or re-engineered should they fail, egg freezing and IVF are high-risk processes with life changing consequences. And this science, particularly where egg freezing is concerned, is still in its infancy.