Swedish nuclear physicist just got the world’s first approved birth control app - as effective as the pill but using only mathematics

Elina Berglund

For over a year Elina Berglund nuclear physicist has been fighting authorities and malicious headlines. Now her app will be the first in the world to be approved as a contraceptive.

“It feels incredibly exciting that there is now an approved alternative to conventional pregnancy prevention methods, and that it’s possible to replace medication with technology,” says a more than satisfied Elina Berglund, who founded Natural Cycles together with her husband Raoul Scherwizl.

The approval comes from the German inspection and certification organization Tüv Süd, which has classified the app in the medicinal category of IIb. That means Natural Cycles officially offers a new, clinically tested alternative to birth control methods such as contraceptive pills, contraceptive implants and condoms.
2015 was a turbulent year for the founding couple. The difficulties peaked November 25 when the ruling of the Swedish Medicinal Products Agency reached their inbox. It demanded that all talk of contraceptive should be done away with in ten days, while the agency continued to investigate the matter. The app’s users were informed two days before Christmas.

“At that point it felt tough. Really tough. After all, the app had been developed for birth control,” Elina Berglund told Veckans Affärer in an interview during the summer of 2016.

On top of that, the information that the Medicinal Products Agency was investigating Natural Cycles leaked, and from the peak revenue of $280,000 in October 2015 they experienced a dramatic decline. “By December our revenues were $120,000.”

The storm continued: Frightening headlines about Natural Cycles attempting to trick young women who lack the discipline to protect themselves, along with strict monitoring from the Medicinal Products Agency.

Now, more than a year later, Elina Berglund and her husband finally get their long-awaited vindication. The previous prognosis of doubled revenues for 2016 was lost in the time pending approval, but now it’s time to strive onward again. “We barely grew at all last year, so now we’ll have to double up this year instead and go from revenues of about SEK 18 million to SEK 36 million.” The plans of a big scale launch in the US will have to wait pending approval from the American regulatory agency, FDA. Instead, Natural Cycles will go ‘all in’ into the UK, which is already one of the biggest markets for the company.

**Natural Cycles calculates daily fertility with an algorithm.**

To use the app, women measure the temperature underneath their tongues every morning and enter the measurement into the app. An algorithm developed uniquely for the app then determines whether you’re fertile or not that day, so that you know if you risk pregnancy by having unprotected sex.

**1. How the app works**

Around the time a woman ovulates, her body temperature rises slightly (about 0.3°C) and remains slightly elevated throughout the rest of her cycle.

Her ova (female eggs) only live for about a day. That means that if she were to have sex with a man for a window of time after ovulation, she will not get pregnant. If she has sex with a
man before she ovulates, on the other hand, she can get pregnant — sperm can stay alive in the uterus for close to a week.

The app uses an algorithm that takes into account her temperature and many other factors like sperm survival, temperature fluctuations, and cycle irregularities. That way, it can detect ovulation and fertility as well as the different stages of her cycle.

"We give red and green days and clear recommendations on which days to abstain and which days we consider the risk of pregnancy to be negligible," Natural Cycles co-founder Raoul Scherwizl told Business Insider.

And it's far more accurate than other similar methods of fertility tracking.

2. Fancy-schmancy app, meet your great-great-great-great grandmother.

Still, aside from Natural Cycle's proprietary algorithm — which, again, is what makes it far more accurate than other similar methods — the app is grounded in science that has been around for centuries.

For thousands of years, it formed the basics of birth control. Since as early as 300 AD, the idea went, someone who wanted to either avoid pregnancy (or get pregnant) kept track of when she was the most fertile. If you want to avoid pregnancy, you don't have sex on those days. If you want to get pregnant, you do. Simple.

Simple, but not perfect.
3. **Fertility awareness-based contraception is hard work.**

Today, so-called "**fertility awareness-based**" methods of birth control can include everything from marking up a calendar to paying **detailed attention to vaginal discharge** to **taking one's temperature** every morning. Problem is, they aren't always reliable, because human bodies aren't always reliable.

The length of a woman's cycle can vary for several reasons, including stress. For many women, this variability is the only constant thing about their periods. In this case, fertility awareness-based methods are generally a bad option, according to Planned Parenthood.

![Unsplash/Tongle Dakum](https://via.placeholder.com/150)

Fertility awareness methods also aren't advisable for women who have a sexually-transmitted infection (STI). And Planned Parenthood suggests these methods "may not work" for women who have any of the following: more than one sex partner; a sex partner who "isn't as committed to fertility awareness-based methods as you are;" trouble keeping close track of "safe days;" trouble abstaining or using another method for at least 10 "unsafe days" during each cycle; or for women who take medicine that may affect reading any of the signs of these methods.

4. **This is where the app comes in.**

Today, women and their partners don't need a physical calendar to keep on top of fertility — they can use their phone or **any one** of a **number of other apps designed specifically** for this purpose.
Natural Cycles, however, is the first of these apps to be certified as a medical device and officially approved by a European health agency. So where does that "as effective as the contraceptive pill" come in? Scherwizl pointed me to a recent clinical study of more than 4,000 women between the ages of 18 and 45 published in the peer-reviewed European Journal of Contraception and Reproductive Health Care.

The study found that the app's failure rate for "typical use" (a term used to refer to how most people use a form of contraception) was 7%. Or, for every 100 women who used the app in a "typical" way (meaning certain common slip-ups are accounted for), seven got pregnant each year. In comparison, the "typical use" failure rate for the pill is about 9%, according to the CDC. For injectable birth control, it's 6%; for an IUD, it's 0.2% - 0.8%.

For "perfect use," the app was also found to be fairly similar to the pill in terms of effectiveness — among those women who used the app perfectly, about five out of every 1,000 got pregnant (a 0.5% failure rate). Among women who use the pill perfectly, about three out of every 1,000 get pregnant (a 0.3% failure rate).

That's way better than traditional fertility-based awareness methods, which have an average failure rate of 24%, according to the CDC.

With that in mind, Natural Cycles is inarguably one of the best forms of fertility-based awareness birth control that exists. Its low failure rates are multitudes better than other traditional fertility-based awareness methods, thanks to all of the data the company has.
crunched (it probably helps that its creators are both physicists with extensive science and math backgrounds).

"A lot of other apps track fertility indicators and then the focus is on the women to do it on their own," Scherwizl told me. "We want to make planning easy for everyone. Temperature data fluctuates a lot. This makes it easier and ensures a certain safety."

5. The elephant in the room.

As a fertility-awareness based contraceptive method, the app will work wonders — for some people.

These people will likely have, in addition to a clean sexual bill of health, one or all of the following: A predictable sex schedule; regular periods; the time and ability to abstain from sexual activity on certain precise, consecutive days every month.

"In the end, what we want to do is add a new method of contraception that women can choose from without side effects," Scherwizl said. "I think there are many women who this will be great for."

But not everyone falls into this category. It's worth noting, for example, that the same study which found that Natural Cycles had an encouragingly low failure rate for typical use also found that more than half of the women who did get pregnant recorded having unprotected sex during their fertile period, Susan Walker, a professor of sexual health at Anglia Ruskin University, pointed out in a recent post for The Conversation. This doesn't mean the app was providing inaccurate data.

Quite the contrary, in fact: It suggests that women were still having sex on the days when the app was telling them not to.

That's an important finding, too. We know an app can't keep people from having sex. But depending on your current situation in life, consistently and reliably abstaining from sex for several days at a time during a precise and sometimes variable window each month may be easier said than done. In these situations, medication may be your best option.

http://www.medicalexpose.com/