Over-the-counter melatonin will not prevent pregnancy.

the melatonin birth control pill

a risk-free contraceptive option?

Melatonin, the trendy hormone hyped as a cure for sounder sleep, silkier skin, and sexier sex, could actually be the biggest breakthrough in birth control since the introduction of the Pill. Michael Cohen, M.D., scientific director of Applied Medical Research, a pharmaceutical company in Fairfax, Virginia, has developed a new melatonin-based birth control Pill, B-Oval, which proved to be as effective as the regular estrogen-based Pill in a five-year study with more than 1,000 women in the Netherlands.

How does melatonin work to prevent pregnancy? Higher levels of this naturally produced hormone suppress ovulation. However, your natural menstrual cycle is maintained.

This link between melatonin and the reproductive cycle was discovered by monitoring animals in the winter. During that season many animals don't get pregnant. The mysterious force behind this phenomenon is the higher levels of melatonin produced in the animals during the colder months. Jonathan Missner, vice-president of operations at Applied Medical Research, calls melatonin "nature's contraceptive," because "it doesn't trick your body into thinking it's pregnant, as the estrogen-based Pill does."

fewer side effects

Since Dr. Cohen's Pill doesn't contain estrogen, the side effects of that hormone—breast tenderness, weight gain, headaches, and, most insidious, a possible increased risk of breast cancer—may be eliminated. At this time, it appears that the melatonin-based Pill has no side effects. However, women taking B-Oval have been studied for only five years—and it can take decades for side effects to show up.

possible breast cancer prevention

What's even more intriguing is Missner's claim that B-Oval may actually prevent breast cancer. In some small preliminary studies with animals, melatonin has been found to suppress its growth. However, Larry Norton, M.D., chief of the breast cancer medicine service at Memorial Sloan-Kettering Medical Center in New York City, warns that these studies are still in a very early stage, so it's much too early to foresee a cancer cure.

Fred Turek, Ph.D., a professor of neurobiology at Northwestern University, has spent the past 20 years studying melatonin. Turek believes that melatonin in small amounts is safe, and that progestin—the other hormone in both Dr. Cohen's Pill and the original Pill—is also safe. What concerns him is the combination of the two hormones and the high level of melatonin (75 mg a day) in Dr. Cohen's Pill. "That's a lot of melatonin!" Turek exclaims. "Who knows what side effects could come up when someone takes that high level of melatonin for twenty years?" But Turek also remembers that there was the same amount of uncertainty when the original Pill began testing.

The U.S. Food and Drug Administration will be putting the safety and effectiveness of Dr. Cohen's Pill to the test. The F.D.A. gave him approval to conduct clinical testing of B-Oval in the United States. Lila Nachtigall, M.D., director of the Women's Wellness Center at New York University Medical Center, says that even if the trials are successful, "At best we can only hope to see approval in three to four years."

—Andrea Dawn Clark ▷

SMART SPERM

Conception is not a random act, with sperm flagellating this way and that until one is lucky enough to collide with the egg. New research from a neuroscience laboratory has revealed that what may guide the sperm to its fertile destination are receptors made out of protein, identical to those in the nose that sense odors. In sperm, these receptors may detect and home in on specific molecules in the fluid that surrounds the egg (they don't perceive odor). The receptors are so sensitive that even sperm that have been languishing about, attached to the walls of the uterus for a day or two, will let go and start swimming toward a newly released egg as soon as its presence is detected.

"We've identified eight receptors," reports Gabriele Ronnett, M.D., an associate professor of neuroscience at the Johns Hopkins University School of Medicine. "The beginning of the tail [of the sperm] is where the action is, and that happens to be where movement is controlled." Next the scientists hope to learn how to manipulate the receptors. For instance, blocking the receptors, speculates Dr. Ronnett, may prevent conception.

Sperm (in green) swimming to an egg (the red sphere).