

Hope in a Jar: Do Skin Creams Work?

New antiaging skin creams claim to do as much as a medical procedure -- but can they? Doctor's explain.

By [Colette Bouchez](#)

WebMD Feature

Reviewed By [Brunilda Nazario, MD](#)

You've seen the antiaging skin care claims, in newspapers, magazines, and even online: ominous photos of hypodermic needles posed along side innocuous, even innocent-looking jars of cream.

The message: A new generation of topical cosmetic creams promises the same wrinkle-relaxing, age-defying results as some pricey and maybe even some potentially dangerous medical procedures, including Botox and collagen injections.

But can they? Well if you're skeptical about what you read, you're not alone. Not surprisingly, some doctors also question the claims and the promises.

"The bottom line is that if these creams could accomplish the same thing as a medical procedure, they would be drugs and not cosmetics -- and that's what you have to keep in mind when deciding whether to try or buy," says Marsha Gordon, MD, vice chairman of dermatology, Mount Sinai School of Medicine in New York City.

Much of the new antiaging treatment technology focuses on compounds called pentapeptides -- small groups of long chain amino acids that function as chemical messengers throughout the body. Among the most popular creams boasting the new technology include the Regenerist line by Olay, Strivectin-SD by Klein Becker, Wrinkle Relax by DDF, and the Principal Secret "Reclaim" line.

And while doctors say there are no published medical studies showing they work, experts involved in product testing say there is ample science behind the pentapeptide technology.

"It had a very strong pedigree going into the process -- we weren't just looking for the next hope in the jar, we were really looking at medical science before we started down the path with these products," says Lauren Thaman Hodges, director of Beauty Science for Olay skin care products.

Initially, the research on pentapeptides was done in relation to wound healing. As part of the body's natural response to help skin heal, published studies showed peptides are instrumental in increasing cells in the skin to produce more collagen.

Collagen Is Key

But collagen isn't just for healing boo-boos. It also plays an important role in how skin ages. Gordon explains that collagen is the support structure that gives our skin a firm, young appearance. When levels remain plentiful our skin looks young and fresh. When levels decline, we lose that support and wrinkles begin to form. While collagen injections can temporarily put back some of what we lose, some researchers believe that topically applying the peptides might have a similar effect -- without the needle.

After combining synthetic peptides with a fatty acid -- essential to get it into the deeper layers of skin -- Hodges says Olay developed the compound "palmitoyl Pentapeptide-3." Strivectin-SD uses a similar complex known as "palmitoyl Oligopeptide." Both companies claim increased collagen production and firmer, more youthful looking skin within four to 12 weeks.

"We don't claim it's better than a medical procedure -- we claim that many women aren't ready [for an injection] so until they are ready, or if they never are ready, we are giving them a choice with a skin care technology you can use at home," says Hodges.

According to Strivectin-SD spokesman Dave Owen, when their ads pose the question, "Is this better than Botox," what they are really asking, he says, is: "Is this better than Botox *for you?*"

"We're just saying that if you're not ready for an injection, then the ingredients in our product can make a difference in how your skin looks -- and it's the end result that counts," says Owen.

And, in fact, these products contain a lot more than just pentapeptides; they include vitamins and herbs with antiaging potential. And at least in the case of Strivectin-SD, the ingredient list was originally developed not for antiaging purposes, but for use as a stretch mark cream. Since stretch marks are the result of split and broken collagen fibers (this occurs when skin stretches rapidly as it does during pregnancy) their researchers theorized that a peptide involved in collagen production and wound healing might also help repair stretch-marked skin.

It wasn't long, however, before the company says women discovered on their own that the compound could also help build collagen reserves anywhere they're needed -- including the tiny lines around the eyes, mouth, and forehead. And the rest, they say is antiaging history.

Despite the homespun tales of success, without published medical studies the question still remains as to whether or not these pentapeptide compounds can really make the jump from wound healing inside the body to antiaging effects on top of the skin. According to Sumayah Jamal, MD, they probably can -- but in a very small proportion.

"The wound-healing effect is a very complex and robust response, but not anywhere near what happens during wound healing," says Jamal, an assistant professor of dermatology at the NYU School of Medicine in New York City.

Gordon remains dubious of the promises. "It is a big jump to say that what happens under the skin is the same thing that happens on top of the skin; I have not seen any conclusive evidence that this jump is possible," she says.

But that doesn't seem to stop the antiaging brigade. Still more attention has been recently focused on yet another entry in the antiaging category -- a product known as "Wrinkle Relax." Also a cream, it combines two types of pentapeptide technology -- palmitoyl pentapeptide and acetyl hexapeptide, also known as "argireline" -- for a compound that may mimic both a collagen shot *and* a Botox injection simultaneously.

"Botox works by destroying a protein involved in the release of a neurotransmitter that would otherwise keep a muscle tense, allowing a wrinkle to form," Jamal tells WebMD. By stopping the tensing motion and relaxing the muscle, the wrinkle seems to disappear, she says.

The argireline complex attempts to mimic that same Botox action by blocking the action of the protein. It doesn't destroy the protein, like Botox does, says Jamal, but instead simply keeps it from connecting to the cell and turning on the muscle contraction.

The palmitoyl peptide, meanwhile, works on producing more collagen. The end result, she says, may be similar to medical procedures, just much less dramatic.

"I think there is question of degree -- you have to think of not only the effect, but the magnitude of the effect -- plus whether or not any product has enough of the ingredients to actually bring about a change in your skin," Jamal advises.

Again, Gordon is less convinced. "Botox is a compound that clearly inhibits neurotransmitters -- but you have to be very precise where you put it; isn't it a little frightening to think that you could get the same effect by smearing a cream all over your face? It really makes you wonder," she says.

The wondering, however, may soon end. Kenneth Beer, MD, and his colleagues at Palm Beach Esthetics are conducting the first study that compares the effects of all three topical antiwrinkle creams as well as Botox. In the study -- the first of its kind says Beer -- 75 women were divided into five groups. Three of the groups are being treated with one of three topical preparations: Strivectin-SD, Wrinkle-Relax, or Hydroderm (a marine collagen complex). The other two groups are administered either a Botox or a saline injection. The women using the creams are also being offered the option of having a Botox injection when they are done testing the creams.

"Throughout the study we are using Canfield medical photography to document any changes in the skin, as well as doctor assessments and patient assessments," Beer tells WebMD. The study will be reviewed and researchers hope to publish their results in a medical journal.

Antiaging Skin Care: What to Choose

If you just can't wait until the jury decides, here's a sampling of what's available -- and the active ingredients they contain.

- **Regenerist by Olay.** Key ingredient: palmitoyl pentapeptide-3. Price: \$18.00 for 1.7 ounces.
- **Strivectin-SD by Klein Becker.** Key ingredient: oligopeptide palmitoyl. Price: \$135 for 6 ounces.
- **Principal Secret Reclaim Anti-Aging Night Cream.** Key ingredient: argireline (acetyl hexapeptide-3). Price: \$40 for 1 ounce.
- **Wrinkle Control Intensely Lifting Eye Gel with Revolox.** Key Ingredient: acetyl hexapeptide-3. Price: \$19.99 for .5 ounce.
- **Wrinkle Relax by Doctor's Dermatologic Formula.** Key ingredients: acetyl hexapeptide-3, palmitoyl pentapeptide-3. Price: \$75 for .5 ounce.
- **Anew Clinical Line and Wrinkle Corrector by Avon.** Key Ingredients: powerful exfoliants that include apple root extract, saccharomyces/pichia petone (a yeast complex), pomegranate juice, and oxa acid. Price: \$32 for 1 ounce.
- **Hydroderm:** Key ingredient: marine-based collagen. Price: \$79 for 1 ounce (a free trial size is available at www.hydroderm.com).

Botox injections cost approximately \$400 each, take up to three weeks to see final results and must be repeated every four to six months. Collagen injections cost between \$400 and \$700, and depending on the formula may require two sensitivity tests before using. Results typically last three to five months but improvement can be seen immediately.

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SOURCES: Marsha Gordon, MD, vice chairman; and associate clinical professor of dermatology, Mt. Sinai School of Medicine, New York City. Lauren Thaman Hodges, director of Beauty Science, Olay Skin Care. Sumayah Jamal, MD, assistant professor of dermatology, New York University School of Medicine, New York City Dave Owens, spokesman, Klein Becker, Salt Lake City. [Kenneth Beer, MD, director, Palm Beach Esthetics, clinical instructor of dermatology, University of Miami, Florida.](#)

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