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An Under-the-Radar Injectable Could Be the Answer to Filler Fatigue, Ozempic Face, and More

It promises to boost fat, reinflating gaunt temples and cheeks, and smoothing crepiness and cellulite.

Jolene Edgar | January 9, 2025



SKIMS bra. Jenny Bird earrings. Huy Luong

Certain cosmetic treatments have invaded the cultural lexicon over the years, becoming veritable household names. Whether you regard injectable products like Botox and Juvéderm as instruments of self-care or weapons of the patriarchy, you've no doubt heard of them and likely have some clue as to what they are: the former, a muscle-relaxing neuromodulator; the latter, a plumping hyaluronic acid filler. Sure, you may confuse the two on occasion or equate both with pillow-faced *Housewives*, but you're no stranger to them. You may even be familiar with Sculptra and Radiesse, which aim to volumize by building collagen. These "biostimulators" recently went viral for reportedly triggering scar tissue formation and complicating facelifts.

But one injectable has somehow managed to fly under the radar, evading internet fame and scrutiny, for the better part of a decade: **Renuva**. A regenerative treatment that gradually restores the body's own fat, Renuva doesn't fit neatly into any of the aforementioned categories. (The makers of Renuva don't even actually call it an injectable—instead, they describe it as a treatment that's injected.) When I asked experts why we hear so little about it, they shared various theories. For one, it isn't nearly as ubiquitous in clinics across the country as, say, hyaluronic acid filler, which means fewer providers hawking it, online and off. It's also expensive (upwards of \$1,500 for a single 1.5 cc syringe) and requires multiple treatments to achieve understated effects. It isn't ideal for popular filling zones, like the lips and tear troughs; nor is it made to mimic bone,

so it meets a fairly niche need, improving gauntness and textural irregularities (like cellulite dimpling), but not sculpting cheekbones or jawlines. And its origin story is admittedly unusual—it's derived from donated human adipose (fat) tissue (more on that in a moment)—which leaves some patients feeling wary or turned off.

Nevertheless, Renuva has developed a bit of a cult following of late, with patients using it to reinflate hollow temples and cheeks incurred by aging or weight loss. (This, of course, includes Ozempic patients—though when GLP-1-induced “Ozempic face” includes sagging, a facelift is generally also needed to lift the tissues and remove excess skin.)

“I’ve actually had a huge number of people asking for Renuva by name,” says Amelia K. Hausauer, MD, a board-certified dermatologist in Campbell, California. These patients do their research and seek it out: “Some drive four or five hours to see me, because they can’t find anyone local who offers it,” she tells me. (Dr. Hausauer has no financial relationship with MTF Biologics, the company that manufactures Renuva.)

Renuva has evaded internet fame—and scrutiny—for the better part of a decade, but has developed a cult following of late.

Renuva’s appeal seems to be growing alongside the demand for “natural” alternatives to traditional fillers—regenerative treatments, in particular. Since Renuva is hard to overdo, according to the doctors I interviewed, and doesn’t attract water, like hyaluronic acid, potentially creating a swollen, doughy look over time, some doctors view it as an answer to filler fatigue. Others speculate that Renuva (hopefully) may be more benign than biostimulators from a future-facelift standpoint, because it merely recruits the body’s own fat cells (rather than depositing synthetic materials). This has yet to be proven, though.

“As a surgeon who operates on the face all the time, I’m tired of seeing fillers in there, causing scarring and other problems,” says Gabriele C. Miotto, MD, a clinical associate professor of plastic surgery at Emory University School of Medicine. She considers fat transfer “the gold standard for volumization,” but sees Renuva as the next best thing, since it eventually dissolves and is replaced by the patient’s own fat. (Fat transfer, aka fat grafting, is a surgical procedure that involves removing excess fat via liposuction—commonly from the abdomen or thighs—and reinjecting it into areas lacking volume and contour.)

In Dr. Miotto’s Atlanta practice, she’s seeing more young people transitioning from filler to facial fat grafting and Renuva. “I like offering fat transfer first—we can do it awake, under local anesthesia—and then for maintenance, we’ll do Renuva,” says Dr. Miotto, who is a paid consultant and trainer for the brand. Renuva works best where fat already exists, so blanketing depleted areas with a light layer of fat is sometimes a prerequisite for Renuva. Of course, there are patients who lack the constitution and downtime for surgery, and assuming they have at least a modicum of fat in the areas they’re targeting, they may choose to have Renuva instead of fat grafting to avoid the associated compression garments, discomfort, and aftercare.

What exactly is Renuva?

Renuva isn’t an exact dupe for fat. In fact, the treatment doesn’t contain any live fat cells. “We remove the cell components, because mature cells from one individual, when implanted into

another, could cause an immune reaction,” explains Evi Chnari, PhD, senior director in research and development at MTF Biologics. Instead of fat cells, Renuva comprises an adipose-derived extracellular matrix—meaning: all of the materials surrounding and supporting human fat cells, including collagen, natural hyaluronic acid, and proteins. “These components are easily recognized by the recipient’s body, so their own fat cells can go into the scaffolding that Renuva provides, attach to it, revascularize it [by establishing a blood supply], and slowly turn it over into fat—the patient’s own fat,” says Chnari.

To be clear, Renuva is made from donated human tissue, which is a fact that could easily be sensationalized or fear-mongered—until we pause to recognize that donor tissue has long been used in medicine. (I’m a registered organ donor and you may be too.) MTF Biologics works with organ procurement organizations and processes tissue grafts—bone, ligament, cartilage, tendon, skin—for various medical indications, including orthopedic surgery, wound care, and plastic and reconstructive surgery (think: cartilage grafts for rhinoplasty and acellular dermal matrices, or ADMs, to reinforce breast surgery). Complying with standards set by both the Food & Drug Administration (FDA) and the American Association of Tissue Banks (AATB), MTF screens, cleans, and processes each donation without the use of radiation to maintain its integrity.

“Some patients drive four or five hours to see me, because they can’t find anyone local who offers Renuva.”

Regarding Renuva specifically, Chnari adds, “We’ve done the biocompatibility testing, we’ve removed any possible contaminants, and every lot that’s released is tested for sterility.”

Aiming to verify the company’s claims with an objective source, I reached out to Saranya P. Wyles, MD, PhD, a board-certified dermatologist and regenerative medicine researcher at the Mayo Clinic Center for Aesthetic Medicine and Surgery. Dr. Wyles uses Renuva in practice and has published research on adipose allograft matrix, but does not consult for MTF Biologics or receive funding for studies. Adipose allograft matrix is an unbranded way of referring to donated human fat matrix—the tissue to Renuva’s Kleenex, if you will. When it comes to injectable versions of this material (the kind without living cells) *in general*, she confirms that they’re “aseptically processed” (meaning, in a sterile way) “without terminal irradiation” (which could degrade their quality) and derived from “donated deceased human adipose tissue, which is recovered and screened in accordance with AATB and FDA regulations and guidelines.” These types of products also need to meet certain international standards and be tested for sterility, biocompatibility, and endotoxins (substances found in the cell membranes of infection-causing bacteria).

As for potential concerns, Dr. Wyles notes that “the use of allograft [donor] tissue carries a theoretical risk of transmission of undetected infectious agents”—pathogens, like certain viruses, that we don’t currently have screening tests for. “This is true for all regenerative human-based products, but rare due to robust donor screening and processing,” she says, noting that MTF Biologics screens even more thoroughly for common pathogens than what is required by the FDA. Additionally, despite the removal of cell components, “there is a minimal possibility of residual antigenicity—[antigens are substances that can provoke] a localized immune response in sensitive patients—but this has not been reported to date.”

Again, Dr. Wyles reiterates, “The potential safety concerns associated with the deceased donor tissue matrices are mitigated through comprehensive screening, aseptic processing, and rigorous

release criteria.” She believes that “long-term clinical studies will help provide more evidence for the safety and efficacy of these products.”

How and where is Renuva used?

Renuva is ideal for treating what Dr. Hausauer calls “pan-facial volume loss”—widespread hollowing and deflation that can make someone look drawn, tired, and perhaps older than they feel. She typically aims to treat these cases with a volumizer, like Renuva, that adds a sort of “diffuse fullness back to the temples, midface, and the lower part of the cheeks.”

Biostimulators, like Sculptra, are commonly used to impart a similar wash of volume, but some doctors prefer “replacing like with like,” as they say. If someone is clearly missing fat, they argue, then adding back fat (or a fat matrix onto which new fat can grow) makes more sense than attempting to build collagen in those areas. In certain situations, however, Dr. Hausauer might use the two products in tandem “to stimulate multiple types of tissue,” she says, injecting Renuva deep to restore fullness and structure and Sculptra more superficially for skin-thickening and wrinkle-smoothing. (Dr. Hausauer believes that biostimulators, like Sculptra, only pose problems for facelifts when they’re injected into the incorrect layer of the face. “A lot of injectors don’t actually know where they are anatomically, and that’s when you end up with unwanted effects,” she says.)

Renuva also shines in the neck, an area where other fillers tend to look lumpy or can interfere with future neck lifts by “creating scar tissue and irregularities under the skin,” notes Kamakshi Zeidler, MD, a board-certified plastic surgeon in Campbell, California, who has used Renuva for about 10 years but has no financial ties to the company. In the neck, “people aren’t looking for volume necessarily,” she adds. “They’re looking for a cushion between their skin and the underlying muscle to decrease age-related crepiness and lessen the visibility of veins and platysmal bands.” Renuva, in her experience, provides just that.

Doctors use Renuva *below* the neck, as well, to smooth cellulite dimples, correct liposuction imperfections, and camouflage breast implant rippling and small indents that tend to plague patients who’ve undergone breast reconstruction, revisions, or implant removal surgeries.

Both Dr. Zeidler and Dr. Miotto use Renuva in the face and body as a “fat-grafting booster,” capitalizing on the synergy of the two treatments, particularly in patients without much fat to spare. “I’ll get as much fat as I safely can from the body, and then add several syringes of Renuva as a booster,” says Dr. Zeidler. Anecdotally speaking, “putting this matrix right next to actual native fat seems to help the fat take while also giving the best possible results from the Renuva.” Dr. Miotto achieves a similar boost by introducing Renuva weeks after fat grafting, she says, “once everything is healed and settled.”

While Renuva can restore soft-tissue structure, “it doesn’t give bone structure,” says Dr. Hausauer, “so if you want a really chiseled cheekbone or jawline, or a defined heart-shaped chin, Renuva is probably not the answer.” The doctors I interviewed also advise against using Renuva in the lips and under the eyes. In these areas, judicious hyaluronic acid filler may still be the best bet for addressing volume loss.



One of Dr. Miotto's patients before (above) and after Renuva in the temples and midface. Courtesy of Dr. Miotto

What is it like to have a Renuva treatment?

The Renuva experience is akin to that of conventional filler—a fairly easy in-office treatment with minimal downtime. “I do Renuva with cannulas, using the same technique I use for fat grafting,” says Dr. Miotto. (A cannula is a blunt-tipped tool that can be used in lieu of a needle when injecting fillers, biostimulators, and fat.) She first injects a numbing solution and then, using the cannula, fans the product out, covering broad areas from a single entry point. “For someone with moderate facial volume loss, one syringe per side is usually plenty to get started,” she says. She fills the area to how she hopes it will look long-term and is careful to not overcorrect.

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The initial payoff generally lasts a week or two, and then, much like with Sculptra, the volume dissipates for a time before rebounding in a lasting way. By three weeks post-jab, new blood vessels are taking root and fat cells are moving into the matrix, Chnari says. By three to six months, most patients can see appreciable volume gains. Roughly a third to half of the volume injected tends to return and stick around, according to Dr. Hausauer. While company-funded clinical studies—evaluating Renuva’s safety and efficacy in the temples, cheeks and prejowl (the gap between the chin and jawline), and backs of the hands—follow patients for, at most, six months, case studies from doctors who use Renuva demonstrate results lasting up to 8 years.

Since Renuva is a biologic, not an ordinary filler, “it can cause a little more redness, swelling, and discomfort for the first day or two,” says Dr. Miotto. Cold compresses can help alleviate such side

effects. As with any injection, bruising can also happen. But some leave the chair without a sign of having been there: “The patient I injected [with Renuva] yesterday was about to fly to see his new grandbaby,” says Dr. Hausauer. “He was like, Oh, I’ll look fine.”

What are the risks and reservations associated with Renuva?

Beyond the usual injection side effects (temporary tenderness, redness, swelling, bruising), Renuva poses a rare risk of allergic reaction to the ingredients used in its processing. “Even though we monitor very closely all the residuals to make sure there aren’t any chemicals left in the matrix at the end, we still list in our package insert any chemicals used, just in case there is some sensitivity,” Chnari says.

A vascular occlusion, which occurs when an injected material enters or compresses a blood vessel, blocking blood flow to the skin or retina, is also possible with Renuva (and most other injectables). Unlike hyaluronic acid, which can be dissolved with a shot of enzyme, Renuva is not reversible, which underscores the importance of finding a vetted and experienced injector. (*Allure* encourages readers to see board-certified dermatologists and plastic surgeons for cosmetic injections and other medical aesthetic procedures.)

Additionally, as with all treatments that rely on the body to generate results, there’s always the possibility of unmet expectations—shelling out thousands of dollars for a disappointing outcome. “This, to me, is the biggest risk—not getting as much volume as you want—which is why I tell patients that we’ve got to give it six months and then we can repeat the treatment, if needed,” says Dr. Zeidler. Dr. Hausauer cautions patients who are actively losing weight on GLP-1s (or by other means) that they may not get a robust response from Renuva. While she doesn’t have hard data to support her theory, “attempting to grow fat while you’re simultaneously trying to lose fat seems counterproductive,” she says. “And given the popularity of these drugs and the changing landscape of aesthetics, this is something we all have to think about.”

Because the FDA regulates Renuva as a human cell, tissue, and cellular and tissue-based product (HCT/P), it’s subject to different rules than neuromodulators and dermal fillers. “Any type of biologic product that comes from a human body is governed by a special branch of the FDA [the Center for Biologics Evaluation and Research] and goes through an entirely different [vetting] process than drugs do,” says Dr. Hausauer, who frequently lectures on FDA regulations for regenerative technologies. Generally, “the number of studies required tends to be less.”

Even in Beverly Hills, Renuva is considered “incredibly expensive.”

While some doctors cite a lack of data as a reason for not offering Renuva, long-term studies are hardly the norm in aesthetics. A literature search for hyaluronic acid filler will reveal countless papers, but most track patient results for a limited time period—be it six months or two years. That’s why researchers are still, 20 years into using filler, discovering new truths about the way these gels behave in the body and how long they actually last.

Board-certified dermatologist Daniel Belkin, MD, does not offer Renuva in his New York City practice, but says he has “no safety concerns” and he’s “not at all ideologically opposed to it.” His reason is far less controversial: lack of demand. Ordinarily, he tells me, “when there’s buzz from patients, media, or other derms and plastics, I make updates to my practice, but in the case of Renuva, I haven’t seen this and I’m not sure why.” He recalls only one patient mentioning Renuva in recent history—and it wasn’t a rave: She spent five figures on buttocks injections and was underwhelmed by the payoff.

Even in Beverly Hills, Renuva is considered “incredibly expensive,” especially for “somewhat unknown results,” says board-certified plastic and reconstructive surgeon Catherine Chang, MD. She reaches for Renuva very rarely, “only when a patient doesn’t have enough fat for fat grafting, because they are too thin or have had significant lipo,” she says. Even then, she uses it “only in very small areas like the face.”

Like Dr. Belkin, Jessica Weiser, MD, a board-certified New York City dermatologist, has been reluctant to adopt Renuva, mainly because she doesn’t see it as essential to her rejuvenation armamentarium. “Correcting collagen and elastin breakdown with energy-based devices and other injectables has proven to be very useful in maintaining a natural and youthful outcome, so I haven’t found that many patients are missing fat correction in their treatment plans,” she explains. “Filler can provide excellent results in small quantities,” she adds, and when patients desire more volume, she typically refers them to plastic surgeons for fat transfer.

Even if Dr. Weiser wanted to offer Renuva, the treatment has been unavailable to her and other New York-based practitioners since January 2022, when the New York Department of Health temporarily suspended the distribution of *all* amniotic tissues, from all companies. The halt in sales, which affects only New York state and is unrelated to Renuva’s safety and efficacy, stems from potential regulatory changes in how tissue forms like these are classified and approved for distribution, according to the company.

What’s next in the world of regenerative injectables?

Currently in the hands of select plastic surgeons, Alloclae (from Tiger Aesthetics) is a new FDA-compliant fat-regenerating injectable poised to launch more broadly in the spring of 2025. (We say FDA-compliant because, as an HCT/P product, Alloclae does not require FDA approval or clearance before it is marketed.)

“This is the first filler designed specifically for the body,” says Dr. Zeidler, who is trialing it as a treatment for hip dips. (Dr. Zeidler is a clinical study investigator for Tiger Aesthetics; the company funds her research.) “What I’m seeing so far is better results in a shorter time frame compared to Renuva or a combination of Sculptra and Renuva,” she says. Alloclae can also be used to augment the butt and breasts.

Thicker and more “structural” than Renuva (and “too bulky for the face”), Alloclae is derived from donated human fat and contains intact fat cell membranes in addition to fat-stimulating matrix proteins, Dr. Zeidler explains, which enables it to provide *instant* volume and shape (whereas Renuva results take months to manifest). According to Dr. Zeidler, Alloclae is “treated to remove

the DNA and nuclei content of the fat cells [which are thought to be more immunogenic, or capable of triggering an immune reaction, than other cell components] in order to minimize the risk of an immune response.”

Tiger Aesthetics confirms that Alloclae “undergoes minimal processing to reduce DNA and its reactive components, which are naturally low in fat tissue.” What’s more, the company “adheres to current good tissue practices, maintains rigorous manufacturing controls, [and conducts] terminal sterilization to ensure product quality and performance.” Alloclae, they add, is made “using aseptic technique in a controlled and monitored cleanroom.”

Dr. Wyles says it’s true that low concentrations of nuclear or mitochondrial DNA may reduce the risk of immunogenicity, but also notes that when a product contains fat cell membranes, it’s equally important to conduct endotoxin testing to rule out other contaminants that may have the potential to provoke an unwanted immune response. When asked about this, Tiger Aesthetics told *Allure* that “donors are screened in accordance with FDA regulations ... to ensure the absence of communicable disease and microorganisms” and that “validation studies conducted by Tiger have confirmed the absence of microbial contaminants.”

While Renuva is typically reserved for small refinements and incremental changes, Alloclae comes in larger batches (12.5 ccs per syringe) and yields greater gains. Dr. Zeidler tells me that her patients who have had breast implants removed are especially excited for Alloclae. “Many of them have done fat grafting a few times, with great results, but they want a bit more volume and don’t want to go through surgery again.” Dr. Zeidler is organizing a small Alloclae trial for breast explant patients who desire a subtle size enhancement plus contour correction.

The luxury of scoring near-surgical results without going under the knife comes at a price, of course. While Alloclae hasn’t announced final pricing, Dr. Zeidler says it will likely cost \$15,000 to \$20,000 to treat the hip dips (using 25 ccs on each side). Roy Kim, MD, a board-certified plastic surgeon in San Francisco, expects Alloclae to be “substantially higher in price than autologous fat grafting.” In his opinion, surgery is still “the way to go” for the majority of patients.

Since Alloclae is brand-new, doctors can’t yet say how predictable or durable its effects may be—but they do know that “the best autologous [fat transfer] studies show 70-80% fat retention,” notes Dr. Kim, who finds that “most patients have plenty of fat for at least facial procedures.”

Unaffiliated with Tiger Aesthetics, Steven Cohen, MD, is a board-certified plastic surgeon in San Diego, who serves as the section editor for Fat Grafting and Stem Cells in the *Aesthetic Surgery Journal*. While he sees how Alloclae may “circumvent the need for—or could certainly supplement—fat grafting to the breast and other larger-volume areas such as buttocks,” he says “we don’t know how it compares to the patient’s own fat in terms of outcomes.” Given this “downside,” he adds, “I’d like to see more data on safety and efficacy before I jump in.”

Still, convenience is paramount for many, Dr. Zeidler says: “So far, my Alloclae patients are loving the immediate results, in a single treatment, with no downtime.”

<https://www.allure.com/story/renuva-regenerative-injectable>