



Sabine Zenker, M.D.

Hyaluronic acid (HA) is a naturally occurring polysaccharide present in skin, where it is critical to maintaining structure and function. The most important role of HA is keeping the skin hydrated; however, over time our natural level of HA diminishes, resulting in thinning of skin, loss of hydration and a decreased ability of skin to restore itself. In a continued effort to maintain younger, softer, brighter and smoother looking skin for patients, cosmetic physicians have increasingly turned to injectable HA dermal fillers to return this lost hydration.

According to Sabine Zenker, M.D., a dermatologist in private practice in Munich, Germany, "hydration treatment is similar to mesotherapy." Dr. Zenker prefers to use Restylane Vital from Q-Med (Uppsala, Sweden) for hydration therapy. "The pre-filled material comes ready to use and contains good quality HA." Furthermore, its low cross-linked profile also provides "more stability than a non cross-linked HA."

Typically, patients schedule three sessions, two weeks apart. Treatment of the décolleté takes 20 minutes, with a total of roughly 200 injections. After a series of treatments, patients can expect "a better glow, better hydration, less rigid skin and a more even surface." Most patients return for a single maintenance treatment after one year.

Nimrod Friedman, M.D., a plastic surgeon with a private practice in Tel Aviv, Israel, favors Juvéderm HYDRATE from Allergan (Marlow, Bucks, U.K.). "Juvéderm HYDRATE is very easy to use because it flows so smoothly, unlike some other products that are very granular. Consequently, you avoid any lumps in the skin and results are extremely even."

## Physicians Utilize Dermal Fillers to Restore Hydration in Skin

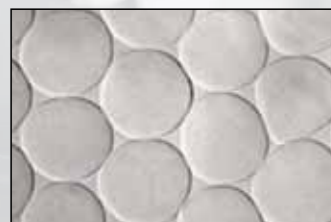
"After a series of treatments, patients can expect a better glow, better hydration, less rigid skin and a more even surface."



Belotero Soft, Basic and Intense by Merz GmbH and Co., KGaA



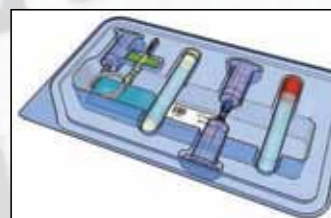
Inside a Geleon: illustration of a 3D polysaccharide structure saturated with ringer solution



Microscopic picture of Geleons



Natural marine algae



Selphyl kit by Aesthetic Factors, LLC

Among the most talked about new products is a topical form of neurotoxin under development by Revance Therapeutics (Newark, California, U.S.) and Medicis (Scottsdale, Arizona, U.S.), which could offer an alternative for needle shy patients. Michael Kane, M.D., a plastic surgeon in New York, New York, U.S., who is also an investigator and consultant for Revance, recently presented Phase II study data in Monte Carlo, Monaco. Study findings revealed that "50% of patients who had their crow's feet treated improved two points on a four point scale." Furthermore, significant improvement was observed in the crow's feet when smiling.



Michael Kane, M.D.  
Plastic Surgeon  
New York, NY, USA

Miles Graivier, M.D., F.A.C.S., a plastic surgeon in Roswell, Georgia, U.S., feels another interesting application for this type of product may be treatment of excessive sweating. "It would be nice to apply a topical product to the hands and feet for hyperhidrosis," he said. "Injectable therapy in these areas is so painful that patients rarely come back for second treatments."



Miles Graivier, M.D., F.A.C.S.  
Plastic Surgeon  
Roswell, GA, USA

Another promising area for continued growth is dermal fillers. Although there are a multitude of different dermal filler products already sold around the world, development of new formulations, injection systems and applications remains strong.

Two new, highly successful dermal filler products from Merz GmbH and Co., KGaA (Frankfurt, Germany) are garnering much interest. Currently available in Europe, Merz plans to bring Belotero and Novabel to the U.S. According to Dr. Graivier, "Belotero combines a strongly bound hyaluronic acid (HA) product with a weaker bound HA product, thereby providing slightly different viscosities within the same syringe."

"They also have a product derived from biocompatible algae called Novabel," Dr. Graivier continued. Novabel consists of highly purified polysaccharides derived from marine algae which are sculpted into soft, flexible structures called Geleons™. "It is very interesting as Novabel has a low viscosity in the syringe, but expands when it hits the air. I've used it in France and I think it offers a lot of exciting opportunities."

Another recent development showing promise in the dermal filler segment are injections of Platelet-Rich Plasma (PRP) to erase wrinkles and regenerate the skin. PRP treatments are re-injections of the patient's own blood platelets for delivery of growth factors. "Patients are all happy with PRP injections," said Sabine Zenker, M.D., a dermatologist in Munich, Germany. "Clinical results are excellent. However, there are many different providers of kits to collect the blood and not all are FDA approved or of high quality." More established providers include Selphyl from Aesthetic Factors, LLC (Princeton, New Jersey, U.S.) and MyCells from KayLight Corporation (Kreuzlingen, Switzerland).



Sabine Zenker, M.D.  
Dermatologist  
Munich, Germany

Autologous stem cells are also increasingly being used to erase wrinkles. As a bonus, these cells can be harvested from areas where body contouring is desired. "Fat derived stem cells have an incredible ability to regenerate the skin," said David J. Goldberg, M.D., a dermatologist in New York, New York, U.S. "With the Body-Jet procedure from human med (Shwerin, Germany), a lot of water is injected into the skin first. I feel this is the least traumatic method of removing fat. The stem cells are still living and the harvested fat is injected back into smile lines, sunken cheeks and other areas. It's safer than many other injectables because we're taking a patient's own fat and re-injecting it back into their body. We have not fully realized all the uses this technique will have yet – maybe even for burn patients," he emphasized. Body-Jet is distributed in the U.S. by Eclipse, Ltd. (Dallas, Texas, U.S.).



David J. Goldberg, M.D.  
Dermatologist  
New York, NY, USA

Nimrod Friedman, M.D., a plastic surgeon in Tel Aviv, Israel, agrees that stem cell therapy will be an important new procedure. "Treatments will be much more controllable and precise than they are now. This will also help in tissue reconstruction of the ear, nose, chest and other areas," he said. "In the future, we will be able to build new cartilage," which could help counteract the damaging effects of certain therapies such as radiation treatment for cancer, which kill stem cells inside the tissue.



Nimrod Friedman, M.D.  
Plastic Surgeon  
Tel Aviv, Israel

Among newly introduced dermal filler products, Dr. Friedman identified Allergan's (Marlow, Bucks, U.K.) Juvéderm HYDRATE – recently launched in Europe – as an exciting way to boost the skin's ability to retain moisture. "By injecting minimal amounts of this product all over the face, we can achieve much better hydration of the skin compared to any other treatment," he advised. "What we lose when we age isn't just volume, but also the water percentage in our skin. Putting a cream on the skin doesn't fully solve the problem. We need a material that can absorb and collect water in the dermis."

Although physicians have used dermal fillers for many years to add volume to the hands, "a newer product from Q-Med (Uppsala, Sweden), may be especially good for this application," said Per Hedén, M.D., Ph.D. a plastic surgeon in Stockholm, Sweden. "Using hyaluronic acid in the hands is typically more problematic than other areas, but it has changed quite a bit in the last few years," he noted. "A new version of Macrolane (Q-Med's NASHA gel product) has lately been injected into the hands. I did the basic research and development on this product dating back to 2002 and since then, it has become an established treatment for breast, buttock and male chest enhancement."



Per Hedén, M.D., Ph.D.  
Plastic Surgeon  
Stockholm, Sweden

Choosing the appropriate dermal filler product, based on the needs of the patient, is of the utmost importance; however, the practitioner's injection technique is also significant. While many physicians continue to use more established injection methods, new systems are offering the potential for improved results.



Juvéderm HYDRATE by Allergan

**"By injecting minimal amounts of this product all over the face, we can achieve much better hydration of the skin compared to any other treatment."**



Hands before Tx



Hands after Macrolane Tx  
Photos courtesy of Jens Otte, M.D.