

Monopolar RF Device Adds Volume to Skin Tightening Benefits

By Lisette Hilton, Contributing Editor

Skin laxity on the face and body is a perpetual concern among aesthetic patients, whether it is the result of aging, weight loss or both. The ideal treatment approach improves skin volume loss and laxity, but there are few single nonsurgical treatments that effectively improve both.

Researchers recently reported their study results on 21 Asian patients who underwent a single monopolar radiofrequency (RF) treatment with Volnewmer (Classys, Seoul, Korea), a continuous water-cooling monopolar RF device.¹

Clinical Results

In the study, Broncheol Leo Goo, MD, MSc, and coauthors evaluated patients 12 weeks after treatment using several quantitative tools, including the Vectra XT 3D imaging system to measure facial volumetric changes, the Merz Scale to assess skin aging, and the Investigator Global Aesthetic Improvement Scale to rate overall aesthetic improvements. They found volumetric increases along with enhanced lifting effects across the cheek and jawline. Assessment with the Merz Scale revealed marked improvement in sunken cheeks, sagging jawlines and wrinkles.

Interestingly, “Volume loss was also observed mainly around the nasolabial fold and marionette line,” commented Dr. Goo, Chief Medical Officer and Director of Classys Inc., and Chief Director of Naeum Dermatology and Aesthetic Clinic in Seoul, Korea. “However, this can be attributed to a morphological change around the nasolabial fold and marionette line that pull the areas upward. As a result, post-treatment volume in the areas was measured to be relatively reduced compared to pre-treatment volume,” he noted. “Collectively, these findings suggest Volnewmer offers effective and safe treatment in addressing mild-to-moderate sunken cheeks and jawline laxity in Asian patients.”

Device Differentiators

Several features distinguish Volnewmer from other monopolar RF devices, according to Dr. Goo, including its distinctive water-cooling system, tips with a curved bottom surface and an innovative “hidden edge” for

uniform energy coverage and ergonomic maneuverability. “The water-cooling system ensures safer and more comfortable treatments while enhancing clinical outcomes,” he explained. “By continuously circulating water at a temperature of 12-20°C, it effectively cools the epidermis, allowing for even and gentle delivery of continuous RF pulses to the skin.”

“The tilting capability of the tips ensures optimal adaptation to facial contours, maintaining consistent and effective skin contact,” Dr. Goo continued. “The cushion function of the tips ensures constant pressure on the skin, regardless of the strength of applied force, promoting uniform energy delivery and improved treatment outcomes.”

Treatment Candidates

Ideal candidates for Volnewmer treatment fall into two groups, “prejuvenation” and “rejuvenation.” The prejuvenation group includes 25- to 40-year-olds who exhibit minimal signs of aging, such as fine lines and wrinkles and early stage facial laxity, according to Dr. Goo. “These are individuals that typically have good skin quality and minimal sun damage. They are typically focused on preventative measures to maintain youthful skin and delay visible aging, and the average starting age group is getting younger.”

The rejuvenation group includes patients with mild-to-moderate facial skin laxity as well as moderate dermal volume and fat thickness. These individuals aim to restore a youthful appearance by addressing existing signs of aging, such as wrinkles and skin laxity, said Dr. Goo. Patients with severe skin laxity, excessive sun damage or very thin dermal layers are encouraged to get combination treatment with compensating mechanisms, such as ultrasound or injectables. Otherwise, Volnewmer is considered the primary treatment tool for addressing these signs of aging.

High Patient Satisfaction

According to Dr. Goo, there are many reasons why patients like the non-invasive, monopolar RF Volnewmer treatment. Among the most common is that it improves skin laxity, texture



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and tone by stimulating collagen and elastin production with a single treatment. “Patients often see significant improvements in facial firmness, contouring and rejuvenation within one to two months, with effects lasting up to six months or longer,” Dr. Goo remarked.

Another is that the treatment is well tolerated with minimal pain and side effects. Temporary swelling and redness typically subside within a couple of hours to days. “With minimal downtime, patients can resume daily activities immediately after treatment,” he said.

An Easy Aesthetic Addition

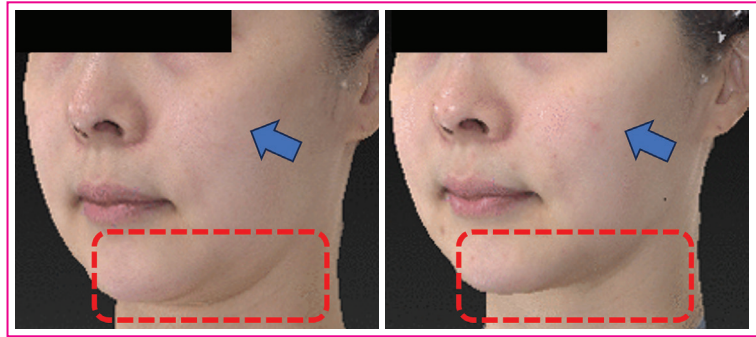
Volnewmer is comparatively easy and inexpensive for aesthetic practices to operate, according to Dr. Goo. The device is equipped with dual handpieces, which eliminate the need for tip changes during procedures. This also enhances efficiency and operator convenience. “Its tilting tip head minimizes operator fatigue, while four specialized tips—V and F for facial areas, I for periorcular regions and S for the body—enable versatile applications,” Dr. Goo explained. “The integrated water-cooling system ensures even RF energy delivery, reducing patient discomfort and eliminating the need for anesthetic cream, thereby lowering costs and improving clinic workflow.”

Scientific Evidence

There is growing evidence that monopolar RF devices play a key role in augmenting skin thickness by improving the extracellular matrix (ECM) microenvironment. “This study further implies that the levels of collagen and elastin are increased, and other ECM components such as glycosaminoglycans and proteoglycans are activated after Volnewmer treatment,” asserted Dr. Goo. “At the molecular level, RF treatment induces the upregulation of TGF- β , a key regulator of the ECM.”

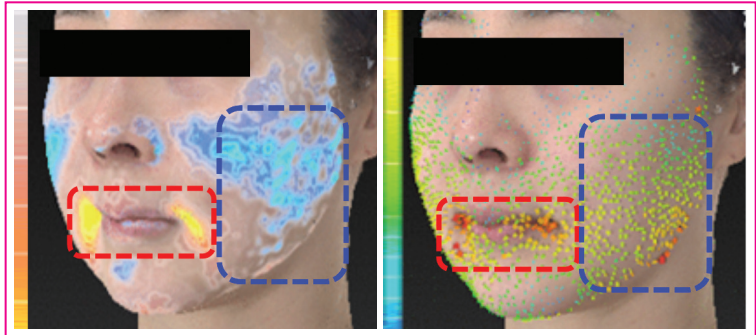
TGF- β subsequently binds to TGF- β type II receptors, triggering the phosphorylation of TGF- β type I receptors. This phosphorylation event activates Smad2 and Smad3, which then associate with Smad4 to form Smad complexes, explained Dr. Goo. These complexes translocate into the nucleus, where they enhance the expression and activation of ECM components. Through this mechanism, RF treatment plays a significant role in modulating ECM expression and activity.

“Collectively, this study suggests quantitative evidence for volumetric increases in the major regions of the face with reliable lifting effects,”



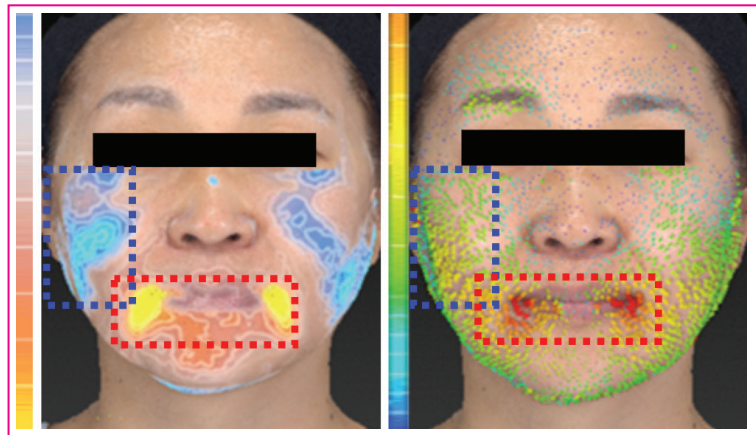
Before and 12 weeks after one MRF session with Volnewmer. Note the midface volume increase and jawline volume decrease

Photos courtesy Classys Inc.



Before and 12 weeks after one MRF session with Volnewmer. Note the volume gain and loss measured via 3D imaging

Photos courtesy Classys Inc.



3D volumetric and lifting analysis for volume gain (blue rectangle) and loss (red rectangle)

Photos courtesy Classys Inc.

Dr. Goo commented. “Therefore, Volnewmer may be a promising alternative for improving facial skin volume loss and laxity with minimal discomfort.”

References:

1. Lee S, Hyun J, Shin Y, Leo Goo B. Efficacy and safety of a novel monopolar radiofrequency device with a continuous water-cooling system in patients with age-related facial volume loss. *J Dermatolog Treat.* 2024;35(1):2333028. doi: 10.1080/09546634.2024.2333028.