

NEWBEAUTY

Obsessed - Power Point
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OBSESSED

Power Point

Dubbed "skin sponging" and "microneedling in a bottle," spicule serums are taking the beauty world by storm, expanding into other categories like creams, masks and more. Here's what to know. —Britt Fallon

HOW SPICULES WORK IN SKIN CARE

Popularized by K-beauty, the term "skin sponging" refers to the use of topical products containing spicules, which are microscopic, needle-like structures derived from marine sponges. "When applied to the skin, spicules make tiny punctures in the outermost layer to create transient microchannels that enhance ingredient permeability," explains cosmetic chemist Ginger King, noting that spicules produce a temporary prickly sensation on the skin, signaling their penetration. "Cosmetic products are not supposed to go too deep within the skin because then they would be entering 'drug claim' territory, so anything that enhances penetration will make products work better."

"Spicules work through two parallel mechanisms: mechanical delivery and biologic signaling."

—DR. RUSSAK

New York dermatologist Julie Russak, MD says spicules work through two parallel mechanisms: mechanical delivery and biologic signaling. "They create microchannels in the stratum corneum that stay open for up to two days," she explains. "They're long enough to carry in ingredients that normally struggle to cross the skin barrier, including larger molecules like hyaluronic acid. At the same time, this controlled disruption initiates a repair response. Fibroblast activity increases, collagen signaling is upregulated and the skin shifts into a regenerative state."

In a 2020 study, combining spicules with stem cell-derived exosomes improved signs of photoaging in a mouse model while also enhancing delivery of those regenerative signals. "In practice, this dual mechanism is what makes spicules interesting," says Dr. Russak. "They not only improve what you apply, but also how your skin responds to it."

London plastic surgeon Dr. Yannis Alexandrides, founder of 111SKIN, was so impressed with spicule technology that it became central to his Exosome Face Lift Protocol, a two-step skin-care system that mimics in-office treatments using bacterial exosomes derived from probiotic strains. "Spicules enhance the delivery of high-performance actives such as exosomes, growth factors and biomimetic peptides," he explains. "This supports optimal cellular repair, stimulates collagen synthesis and accelerates cell turnover, resulting in smoother, firmer and visibly revitalized skin over time." Backed by clinical data, this protocol is now also being used in luxury spa facial treatments.

HOW THEY COMPARE TO MICRONEEDLING

Though some skin-care brands compare spicules to in-office microneedling, Beverly Hills, CA facial plastic surgeon [Kimberly Lee, MD](#) says the depth and precision are very different. "While spicules mimic the microneedling concept, they do not achieve the same depth or trigger the level of collagen production seen with in-office devices," she explains. "Spicule products are not a replacement for treatments that address concerns like acne scarring, significant signs of aging or deeper collagen remodeling." Their value is not in a single, high-impact treatment, but rather in cumulative, low-level stimulation over time, Dr. Russak adds. "Used consistently, they can support skin quality and enhance the performance of topical regimens, rather than replace in-office procedures."

The current data on spicule skin care is promising, Dr. Russak says, particularly in terms of enhanced delivery and early signals of collagen stimulation, but much of the evidence remains limited in scale. "We do not yet have long-term data across diverse patient populations," she explains. "And, because spicules intentionally disrupt the skin barrier, even in a controlled way, the dosing, frequency of use and user's skin type really matter."

WANTON/GETTY IMAGES

WHO SHOULD (AND SHOULDN'T) USE SPICULE PRODUCTS

If the goal is to improve skin quality, early signs of aging or textural irregularities, spicule products can help, but Dr. Lee says they're not suitable for everyone. "Normal to combination skin types tend to tolerate them best," she explains. "Some acne-prone individuals, particularly those with mild congestion or clogged pores, may see benefits, but those with inflamed or cystic acne may experience increased irritation. Sensitive skin types are also more prone to stinging, redness and barrier

disruption. I recommend applying a product with barrier-repairing ingredients, such as ceramides, afterward to support skin recovery." For those with rosacea or eczema, Dr. Russak suggests avoiding spicules altogether, as they can exacerbate inflammation. Additionally, be wary of combining spicule products with exfoliating actives, such as retinoids, alpha-hydroxy acid or beta-hydroxy acids, as it can increase the risk of irritation, says Dr. Lee. "And, avoid use on post-procedure skin until it's fully healed."

SPICULE PRODUCTS TO TRY



01

VT COSMETICS NEEDLE SHOT

Starting at \$20, amazon.com

Available in four "strengths" from 50 to 700, this K-beauty glass-skin spicule serum has risen to viral fame. "Needle Shot introduces a dose-dependent model, which is one of the more thoughtful ways to approach spicules," says Dr. Russak. "The different intensity levels allow patients to scale based on tolerance and goals."



celimax



02

CELIMAX RETINAL SHOT TIGHTENING DUAL CREAM

\$40, alia.com

Utilizing a dual-chamber system, this innovative cream offers two formulas in one step. Retinal, Matrixyl 3000 and the brand's proprietary A-Shot spicules are kept separate from barrier-supporting ingredients, but when dispensed together, they create the perfect mix to refine pores, smooth wrinkles and improve elasticity.



04

TISSKIN EXOSOME FACE LIFT PROTOCOL

\$800, tisskin.com

Give aging skin a youthful boost with this potent duo (Exosome Shot Serum and Exosome Overnight Mask) that utilizes spicules to drive bacteria-derived exosomes, collagen-boosting milk thistle extract and other actives deeper into the skin. Clinical studies show a visible tightening and lifting effect, as well as smoother fine lines and wrinkles.



05

YA-MAN MEDI LIFT NEEDLE LIFT FIRMING SHEET MASK

\$12 for seven masks, ya-manskincare.com

Brighten and firm in just 10 minutes with this powerhouse, biodegradable sheet mask from Japanese brand YA-MAN. Infused with 14,000 micro-spicules, it sends hyaluronic acid, collagen, ceramides and six age-defying, nano-encapsulated ingredients (bakuchiol, EGF and more) deeper into the skin.



03

VENN SKINCARE ACTIVE LIQUID SHOT 0.1

\$95, vennskincare.com

Formulated with 0.1 percent ultra-refined hydrolyzed spicules, this serum gently stimulates the skin's surface to optimize the absorption of any products applied next. But that's not all: Skin also gets a big brightening boost via 2 percent tranexamic acid and 4 percent niacinamide, without upsetting its barrier.