



R. SCOTT PETERSON, PhD

Reduction in synthesis of exogenous HA occurs naturally with age and may be exacerbated by UV and other environmental aggressors. Because HA provides moisture to the skin and buttresses the extracellular matrix to support synthesis of collagen and elastin, depletion of HA is associated with many of the signs of skin aging, including wrinkles and laxity.

Injectable fillers attempt to address the problem of HA depletion by delivering HA into the dermis. But we know that the improvement provided by this method is temporary. The naturally-occurring enzyme hyaluronidase breaks down deposited HA over time.

As with so many other challenges in medicine, it turns out that the most meaningful solution to the problem requires a multi-modal approach. At SkinCeuticals, we are pleased to have pioneered an efficient, convenient multi-beneficial formulation to support and maintain natural HA levels in the dermis and epidermis.

H.A. Intensifier serum isn't just formulated with fragmented HA to provide immediate hydration to the surface of the skin but also includes Pro-Xylane® and a unique blend of botanicals. Together, these key ingredients are formulated to support skin's HA levels and help maintain the integrity of skin's matrix for improved firmness. This top-down and bottom-up approach addresses the various facets of HA degradation with age and is proven to provide significant clinical benefits. Furthermore, studies confirm that use of H.A. Intensifier was associated with an impressive 70 percent increase in HA (HAS2) expression and a 50 percent increase in collagen (COL1a) expression.

The fast absorbing, light-weight serum is quick drying and suitable for use on all skin types, including sensitive skin, and for both men and women.

For cosmetic practitioners, talk of hyaluronic acid has largely focused on fillers. Today, the conversation is changing. By offering an evidence-based topical solution to the problem of HA depletion, SkinCeuticals offers yet another approach to complement the expert injector. Consumers—your patients—can count on H.A. Intensifier as an innovatively formulated, rigorously tested formulation that will support natural HA expression, preserve endogenous HA stores, moisturize the skin and, ultimately improve the appearance of facial aging.

## H.A. INTENSIFIER: AMPLIFYING DERMAL HA FOR SKIN SUPPORT

### WHAT IS THE ROLE OF HYALURONIC ACID IN THE SKIN, AND HOW DOES IT CHANGE WITH AGE?

**Dr. Aguilera:** We know that endogenous or exogenous hyaluronic acid (HA) acts as a great moisturizer. In the epidermal layer, it provides hydration to the skin by attracting water and natural moisturizing factors to the epidermis. This skin hydration is associated with skin elasticity.

At the dermal level, HA serves not only as a reservoir for water; by attracting and holding up to 1,000-times its weight in water, it provides structure and volume to the extracellular matrix and allows for the organization of collagen and elastic fibers in the dermis. HA is essential to the structural arrangement needed for proper skin function and metabolism. A healthy extracellular matrix with appropriate amounts of hyaluronic acid will stimulate fibroblast profusion and promote synthesis of new collagen, particularly collagen type 1.

We know that endogenous HA levels decrease with age and as a consequence of photodamage. Coupled with other age- and UV-associated skin changes over time, this reduction in HA contributes to the appearance of skin aging, including a lack of moisture and elasticity, as well as wrinkling.

### MANY TOPICAL SERUMS CONTAIN HA AND CLAIM TO INCREASE HA IN THE DERMIS. HOW DOES H.A. INTENSIFIER WORK TO SUPPORT THE SKIN'S NATURAL LEVELS OF HA?

**Dr. Aguilera:** Not all hyaluronic acids are made equal. Hyaluronic acid has a large molecular size, and it cannot normally penetrate the skin. So in most topical formulations, hyaluronic acid works at the skin's surface only as a moisturizer, hydrating the epidermis. Due to lack of penetration, these formulations will have limited effect on dermal hyaluronic acid in the extracellular matrix that supports collagen health and provides structure to the skin.

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In order to effectively support HA in the dermis, the H.A. Intensifier formulation utilizes a multi-modal approach targeting HA function in the following ways: 1.) Supporting HA synthesis in the dermis, 2.) Minimizing the degradation of HA, and 3.) Moisturizing the epidermis.

Pro-Xylane® 10% is included in the formulation to support the skin's HA levels and help maintain the integrity of the skin's matrix for improved firmness. *In vitro* studies demonstrate that Pro-Xylane® is associated with the stimulation of glycosaminoglycans (GAGs), like HA. In fact, when 'free' HA or Pro-Xylane® is applied to reconstructed skin, Pro-Xylane® treated skin shows significantly higher levels of HA expression. Supporting increased expression of HA in the skin is a great first step, but each of us has natural hyaluronidase that continually breaks down HA. So in addition to making HA, a good topical will also help preserve HA and slow down its degradation. The goal is to make and not break.

Botanical extracts, such as purple rice, and dipotassium glycyrrhizate, a licorice extract, are included in the H.A. Intensifier formulation. *In vitro* studies demonstrate that the combination of purple rice and dipotassium glycyrrhizate inhibit HA breakdown and help preserve hyaluronic acid content in skin.

Finally, full-sized, fragmented, and encapsulated HA is included in the formulation to provide immediate hydration of the epidermis and increase elasticity.

### WHAT CAN PATIENTS USING H.A. INTENSIFIER EXPECT CLINICALLY IN TERMS OF IMPROVEMENT IN THEIR SKIN?

**Dr. Aguilera:** Use of H.A. Intensifier with Pro-Xylane® to encourage HA synthesis, purple rice extract and dipotassium glycyrrhizate to interfere with hyaluronidase activity (as demonstrated *in vitro*), and moisturizing HA translates into increased plumpness, more firm skin that is smoother in texture with a reduction in the appearance of fine lines and wrinkles. In fact, several patients have demonstrated improvement in the appearance of folds, like the marionette and nasolabial fold. Never before have I used an efficacious product that can target and improve the appearance of an actual skin fold!

The effects of the formulation have been demonstrated in clinical studies. For a 12-week study, 59 female subjects applied H.A. Intensifier twice a day. Subjects were reported to have an up to 23 percent improvement in skin plumpness and 17 percent improvement in skin texture. Improvements in skin elasticity, firmness, and sagginess were roughly 13 percent, 11 percent, and 9 percent, respectively. HA expression was increased 70 percent, and collagen expression increased by 50 percent.

Historically, clinicians have depended on retinol and

retinoids as the only topical agents that truly support new collagen synthesis. H.A. Intensifier indirectly supports collagen synthesis topically by providing structure, nutrition, and hydration to the skin. It is an ideal topical product for both prevention and correction of signs of skin aging. It is an ideal solution for use by patients of any age, including those younger patients with fine lines and wrinkles who may not be prepared for other procedures or for those in their forties or older who may be undergoing procedures to correct skin aging. ■



*Shino Bay Aguilera, DO is in private practice in Ft. Lauderdale, FL. He is Assistant Professor of the Dermatology Residency Program at NOVA University, Assistant Professor of Dermatology, Lake Erie College of Osteopathic Medicine, Suncoast University, and Universidad del Rosario, Bogota, Colombia.*



## H.A. INTENSIFIER

H.A. Intensifier is a multi-beneficial formula containing a high concentration of pure hyaluronic acid (HA), Pro-xylane, and purple rice extract to support skin's natural HA reservoir to help renew plumpness, elasticity, and firmness. It is formulated in a fast-absorbing, light-weight serum.

### 10% PRO-XYLANE

- Supports skin's hyaluronic acid levels
- Helps maintain the integrity of skin's matrix for improved firmness

### 2.0% DIPOTASSIUM GLYCYRRHIZATE AND 0.2% PURPLE RICE EXTRACT

- Dipotassium glycyrrhizate is the principal component of licorice root
- Purple rice is a seed of *oryza sativa* linne, a type of rice originating in China
- Together these ingredients help preserve hyaluronic acid content in skin

### 1.3% HYALURONIC ACID

- Present as a combination of full molecular weight, fragmented, and encapsulated chains
- Provides long lasting hydration to improve skin's texture