

HYAMIRA - JUVEXX

Hyaluronic Acid in Dermatology and Dermocosmetics

HYALURONIC ACID AND HEALING

Hyaluronic acid has a key function in healing and tissue repair processes. Various studies have in fact shown the direct connection between the presence of this substance in the skin and the actual quality/rapidity of healing.

The healing action of hyaluronic acid is due to its multiple properties, such as the ability to maintain a humid environment favourable to healing and the stimulation of growth factors, cellular constituents and the migration of various cells essential for healing.

Hyaluronic acid is involved in every phase of wound healing, from inflammation/exudation to the formation of granulation tissue at the edges of the wound with the generation of new cells, up to re-epithelization, with the formation of a new layer of skin.

Normally the skin possesses a system of optimum intrinsic tissue repair and a rapid capacity for healing; however there are many situations, for example in the case of extensive wounds or those where the healing process has slowed down, where the application of exogenous hyaluronic acid stimulates the healing process and consequently healing itself. More specifically, the hygroscopic properties of hyaluronic acid (its capacity to retain molecules of water) encourage maintenance of a humid environment favourable to the process of regeneration.

For all these reasons hyaluronic acid is widely used in the treatment of wounds of a different nature, such as abrasions, burns of various degrees, ulcerous lesions of the leg and bedsores.

OUR TREATMENT PROPOSAL

The consolidated experience of our group in developing and producing products based on hyaluronic acid has resulted in the development of a dermatological line which is distinguished by its high standard of quality and safety.

The products in this range, available in various formulations, are able to intervene where necessary with the topical application of hyaluronic acid (e.g. infected and non-infected wounds, leg ulcers, bedsores, post-operative wounds, burns, dermatological disorders of bacterial origin or those predisposed to developing secondary infections), thus encouraging resumption of functionality and skin integrity.

AGEING OF THE SKIN

Our skin is subject to two different types of ageing: intrinsic ageing, also known as chronoageing, and extrinsic, or photoageing.

Chronoageing is a continuous and natural process which starts at about 25 years of age: in this period **the production of collagen, elastin and hyaluronic acid slows down**; cell exchange becomes slower, and the thickness of the corneal layer increases. This all leads to the **appearance of classic signs of ageing**: wrinkles, laughter lines, loss of hydration, tone and elasticity. The speed at which chronoageing becomes visible is associated with actual genetic assets; in some people the skin is the first sign, in others it is wrinkles and laughter lines are only visible at a later stage. This “natural” process can be accelerated and/or worsened by a series of external factors, such as ultraviolet light, cigarette smoke (active or passive), stress, failed cosmetic treatments: all these factors constituted the status known as **photoageing**.

But what really happens inside our “organ barriers” as time passes?

The skin basically consists of three layers: the epidermis, the dermis and the subcutaneous layer. Every layer contains connective tissue made up of collagen fibres which provide the whole body with support and elastin fibres for flexibility. As we age, the epidermis thins and the skin tends to appear thinner, pale and translucent. This process is also the cause of the phenomenon known as “age spots”, which often appear in very exposed areas, such as the face and the back of the hands, and which worsen with extensive and damaging exposure to the sun. The changes that occur inside connective tissue also reduce the strength and elasticity of the skin: this process is known as elastosis. The way in which the effects of chronoageing and photoageing both accelerate the appearance of the signs of ageing is also clear.

FREE RADICALS

An important role known as “oxidation stress” is played by the **increased production of free radicals** in the ageing process. When the cells in our body produce energy, unstable oxygenated molecules are formed as a by-product of normal cell function. These substances, known as free radicals, contain atoms of oxygen with a single electron (radical oxygen) which is why they are very unstable and tend to bind with other molecules in the body causing **structural damage to the DNA, proteins and cell membranes**.

Some of the habits associated with a bad lifestyle, such as exposure to ultraviolet light and smoke, in particular, accelerate this process. **Our body has developed a series of defence mechanisms** to minimize this damage and possibly repair it, **thanks to endogenous anti-oxidant substances**, or substances which are synthesized by the body itself: these include catalasys, superoxide dismutases and glutathione. Other types of antioxidant can be consumed in the diet, in order to activate biological repair systems and detoxification: vitamin A, C and E, lipoic acid, coenzyme Q-10, carotenoids, fatty acids, and polyphenols – such as pycnogenol. However very often our **everyday diet lacks these substances**: this is because the use of certain **dietary supplements** based on antioxidants, especially when the ageing process starts to become visible, is particularly indicated for hampering the endogenous degenerative process, for stimulating cell turnover and restoring elasticity, tone and hydration of the skin.

Only a **combined anti-aging approach**, incorporating a correct lifestyle and nutritional integration together with the use of topical and/or intradermal preparations, is actually capable of **restoring the skin’s natural beauty**.

THE ROLE OF HYALURONIC ACID IN ANTI-AGING RESEARCH

Hyaluronic acid is an essential component of the connective tissues and is now known to be the most important substance in “anti-ageing” research. Its task is to **hydrate, lubricate and return elasticity to the skin, maintaining the shape of the tissues and strengthening their tone.**

In fact hydration, firmness, plasticity and all the typical properties of the dermis are influenced by its determining role, including **protection against free radicals** with an antioxidant action of a *scavenger* type, neosynthesis of collagen and other important biological activities.

Studies show how hyaluronic acid decreases significantly over time and this impoverishes skin, causing wrinkles and an unattractive appearance, with loss of tone and elasticity.

THE TREATMENTS IN THE ANTI AGEING RANGE

Intradermal medical devices in pre-filled syringes for the biostructuring of the skin consisting of a buffered physiological solution of hyaluronic acid, obtained by fermentation.

THE FILLER LINE

The filler range available in pre-filled vial syringes based on highly purified hyaluronic acid has been researched and offers a natural lifting effect, as it produces harmonic and balanced results.

HYALURONIC ACID HYAMIRA – JUVEXX (prefilled syringes)

Technical specifications

- **Hyaluronic acid 1 Million Dalton, biotechnological source, linear, API manufactured in France**
- **Prefilled syringes from BD**
- **Ph 6.5 – 7.5**
- **Dynamic viscosity > 500 mPas**
- **Osmolarity > 250 >400 mOsm/kg**
- **All products are MEDICAL DEVICES with CE marks class III according to 93/42 CEE standards**

Available versions

- **1.6% 1 ml prefilled syringe (16 mg HA) (red box)**
- **1.6% 2 ml prefilled syringe (32 mg HA) (green box)**
- **2.0% 1 ml prefilled syringe (20 mg HA) (violet box)**
- **2.0% 2 ml prefilled syringe (40 mg HA) (blue box)**

Syringes are pre-filled, sterilized, put in a single blister, packed in carton box cm. 15.5x4.5x2.5 with 4 languages instructions (Italian, English, French and Russian). Italian origin.



Posology: one intradermal injection every 15 days for the first two months and then one intradermal injection every month.