

# Hyaluronic acid in anti-ageing

BY DR IRFAN MIAN

**Dr Irfan Mian**, Cosmetic Physician specialising in non-surgical aesthetic treatments, provides readers with a comprehensive guide to his preferred product and procedure in dealing with ageing skin.

## The product

Hyaluronic acid (HA) or hyaluronan, a glycosaminoglycan, is the main molecule involved in skin ageing where it provides moisture in the extracellular matrix. Replacing HA can greatly improve the clinical effects of skin ageing but only if it can reach both the epidermis and the dermis. This is where Prophilu, a thermally cross-linked HA of low (L-HA) and high (H-HA) molecular weights can play a vital anti-ageing role in the skin.

L-HA induces inflammation, a property essential for wound repair. The L-HA is found in high concentrations in wounds resulting in triggering the inflammatory cascade reaction by triggering cytokines. These induce neovascularisation, fibroblast invasion, proliferation and differentiation, and also trigger other biochemical processes. These all speed up and propagate the wound repair process. H-HA does not induce inflammation and is known to be anti-inflammatory.

In Prophilu, L-HA is released slowly from the HA hybrid complexes and therefore does not trigger the first inflammatory cytokines making it very biocompatible. It provides hydration to the skin, especially in the epidermis, by having a direct effect on the fibroblasts through the CD44 pathway stimulating the fibroblasts – hence bioremodelling.

H-HA in Prophilu provides a stable HA



Figure 2: Patient (70-years-old) before the procedure and one month after a second treatment (Courtesy of IBSA Farmaceutici Italia / Prof Daniel Cassuto / Dr Irfan Mian).

architecture in the dermis, giving a volumetric effect. It has a direct biostimulatory effect on fibroblasts to improve collagen production, elastin and also strengthen the skin.

Prophilu is easy to inject due to its low 'resistance to flow' characteristics. It spreads easily and integrates well in the tissues by diffusing along the interstitial spaces between lymphatic vessels.

The HA in the dermis is in continuity with the lymphatic and vascular systems. In this way Prophilu spreads into the facial fat pads where it stimulates stem cells to differentiate into fibroblasts.

## The procedure

The first treatment followed by a second treatment after four weeks. If required a third treatment may be done after a further eight weeks. Maintenance is a repeat of the entire protocol every six months as required.

The bio aesthetic point (BAP) technique was specifically developed for Prophilu using CT scanning to determine spreading in the facial tissues. These points when injected with 0.2ml of Prophilu subdermally give the best uniform spread. The product spreads over a day or so by the action of mimetic muscle movements. There is no need for post-injection massage. These points (five on each side of the face) are also well away

from major arteries, veins and nerves thereby avoiding iatrogenic injury or intravascular injection (Figure 1).

I also use the 'intermittent retrograde technique' with a cannula. I have found this to be a good technique in all areas, giving more comfort to the patient than the regular retrograde technique. This technique is appropriate when Prophilu is being used for skin modulation in areas other than the face. It may be used in the neck; for example, an entry point is made after appropriate anaesthesia at a point approximately 2-3cm from the upper mastoid process attachment of the sternocleidomastoid muscle. Care should be taken to avoid injury to the external jugular vein which should be identified by finger occlusion of the vein at its clavicular end.

A 70mm x 21G cannula is inserted and with the exit point upwards Prophilu is injected intermittently in 2cm aliquots. The process is repeated using a fanning technique on both sides of the neck. This technique can be used in a similar fashion in other parts of the body (Figure 3).

I use Prophilu daily, both by injection and by cannula, to achieve a more hydrated, less lax and more youthful skin for my patients. I have found it to be a good addition to my 'tool kit' and have not seen any side-effects or complications despite multiple treatments. (Continued over)

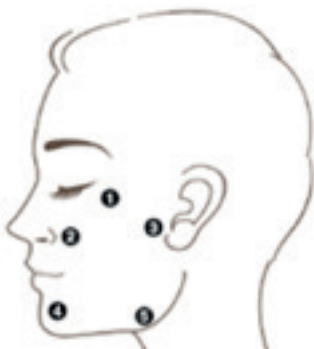


Figure 1: The five points of the BAP technique.

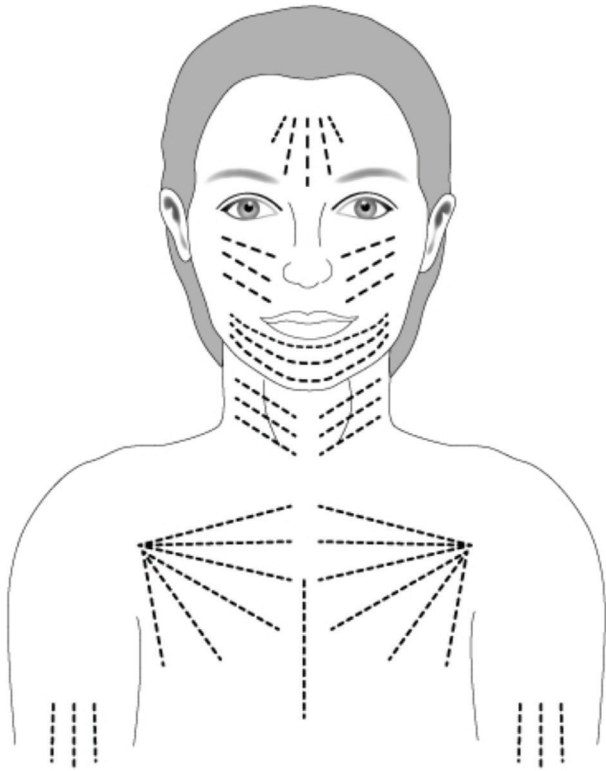


Figure 3: Using Profhilo in other parts of the body.

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