VAIM GLOBAL

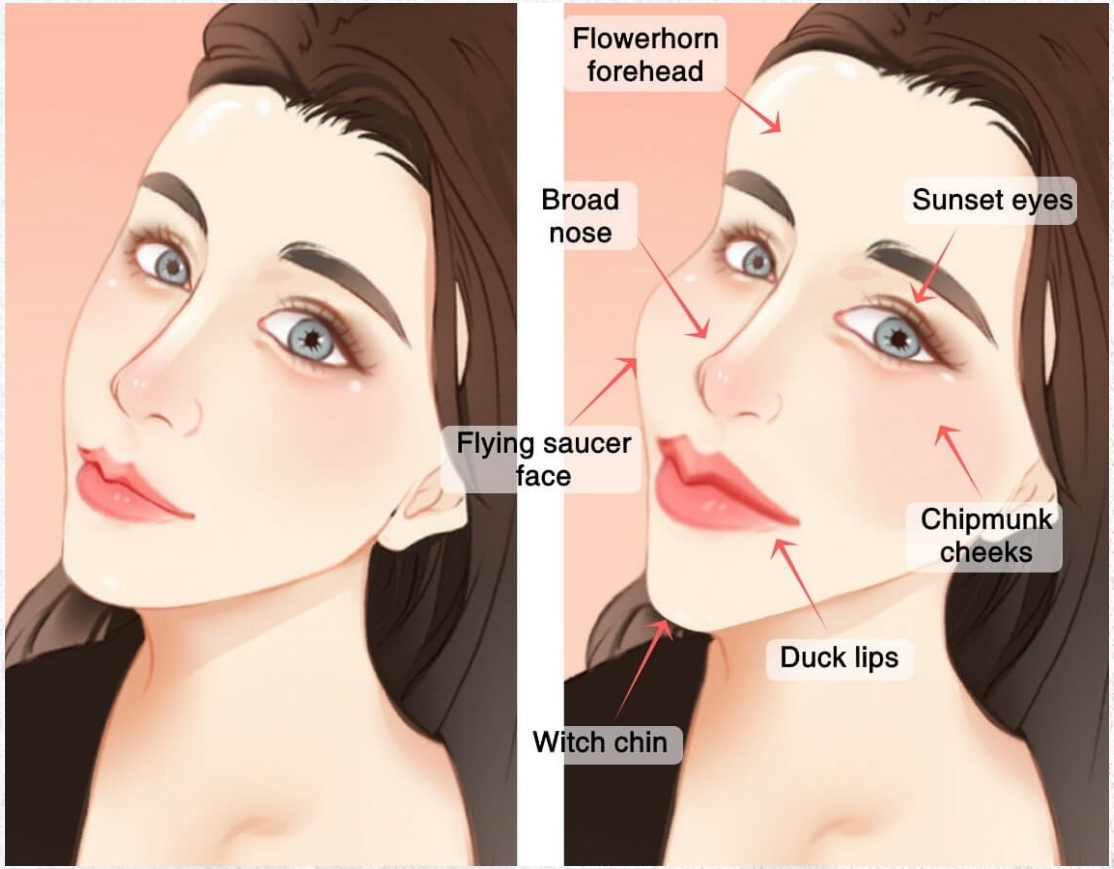
JuveLook

喬雅露 | 新童妍

為 肌 膚 注 入 光

正宗多效聚雙旋乳酸　聚雙旋乳酸PDLLA　x　玻尿酸HA

微整美學風氣改變：組織增生劑是下一個主戰場



非手術的面部年輕化新方法

Journal of Plastic, Reconstructive & Aesthetic Surgery
Available online 6 March 2024
In Press, Journal Pre-proof What's this?

The Emerging Role of Biostimulators as an Adjunct in Facial Rejuvenation: A Systematic Review 1

Sean M. Fisher, Zachary Borab, David Weir, Rod J. Rohrich

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https://doi.org/10.1016/j.bjps.2024.02.069 Get rights and content

Abstract

Introduction

Facial aging has long been an area of focus in aesthetic surgery. It is the consequence of physiologic and environmental factors, with a trend towards non-surgical modalities. While volume augmentation has long been a focus of non-surgical facial rejuvenation, there is emerging interest in the use of biostimulators to induce physiologic changes of the skin. This article aims to provide an overview of this class of therapies.

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REVIEW ARTICLE

The evolving field of regenerative aesthetics

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Email: kate@clinic77.co.uk

Abstract

Background: Regenerative aesthetics (RA) is an emerging subfield based on many of the principles of regenerative medicine (RM). In order to ensure that the development of regenerative aesthetics is based on accepted regenerative concepts and to optimize treatment strategies, it is important to establish clear definitions, fundamental aims and consider the impact of the predominant RA tissue environment RM focuses on the regeneration of injured or diseased tissue, while RA aims to restore youthful properties to aging, senescent tissue. The distinction is key in understanding how best to develop treatments for these different goals.

Aims and methods: The current review suggests key concepts, definitions, and foundations of regenerative aesthetic approaches and examines current evidence supporting this. It considers the importance of the aging tissue environment, the essential regenerative goals of restored tissue structure and function and introduces the concept of regenerative scaffolds with a focus on CaHA. Current techniques in the field and promising future directions are also discussed.

Conclusion: Regenerative aesthetics is an evolving subfield of regenerative medicine. Establishing clear definitions, identifying the challenges of the aging soft tissue environment and re-evaluating current evidence in light of regenerative goals are vital for the continuing evolution of this medical field.

KEYWORDS
calcium hydroxylapatite, extracellular vesicles, regenerative aesthetics, regenerative scaffolds, tissue regeneration

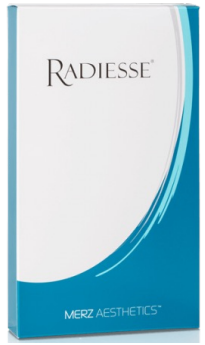
組織增生劑/膠原蛋白增生劑

聚左旋乳酸 PLLA

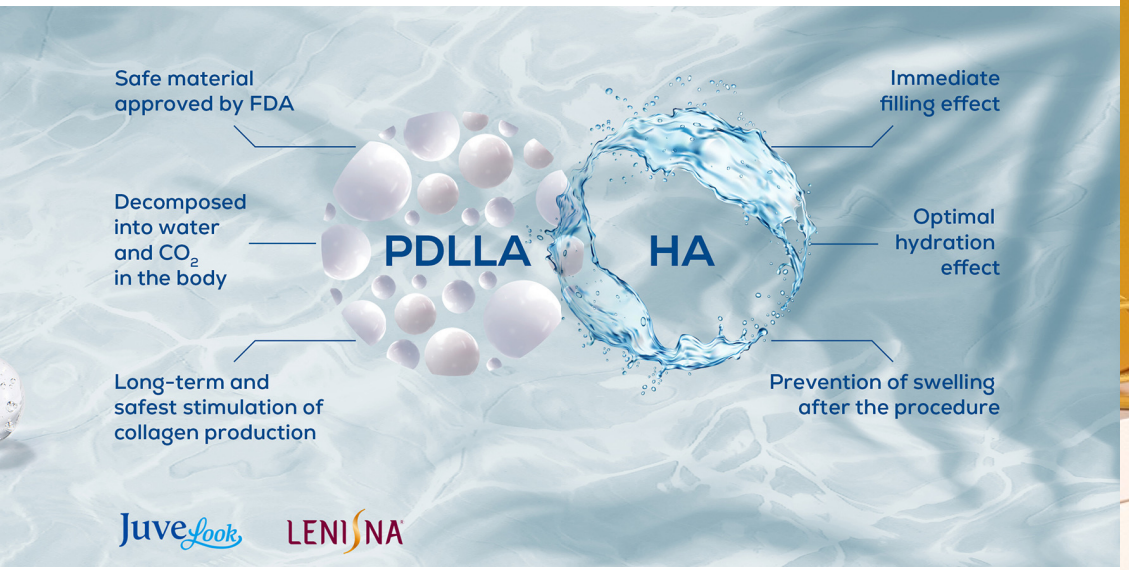
聚雙旋乳酸 PDLLA

聚己內酯 PCL

鈣羥磷灰石 CaHA



JuveLook
喬雅露 | 新童妍



首創結合聚雙旋乳酸與玻尿酸

#唯一可用於真皮注射之組織增生劑

#零栓塞案例 #低結節機率

LENISNA® 200mg

(俗稱大分子)

輪廓順修 皺紋/凹陷填補

JuveLook 50mg

(俗稱小分子)

水光 淚溝 頸紋 凹疤

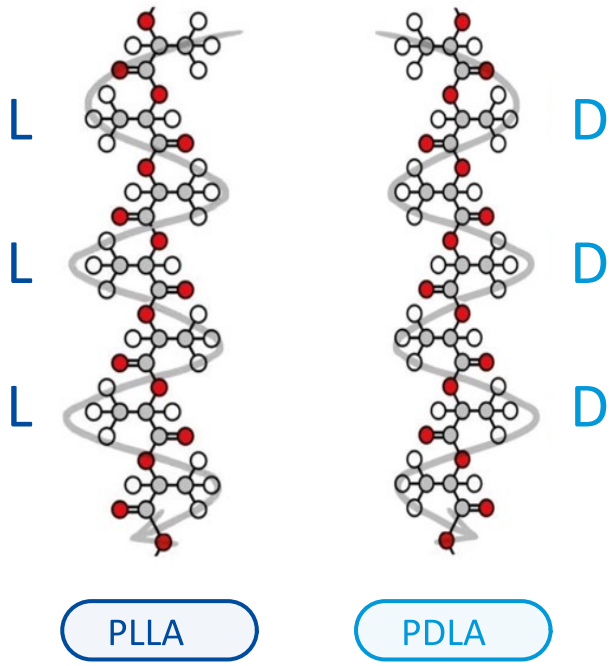
什麼是PDLLA (聚雙旋乳酸)?

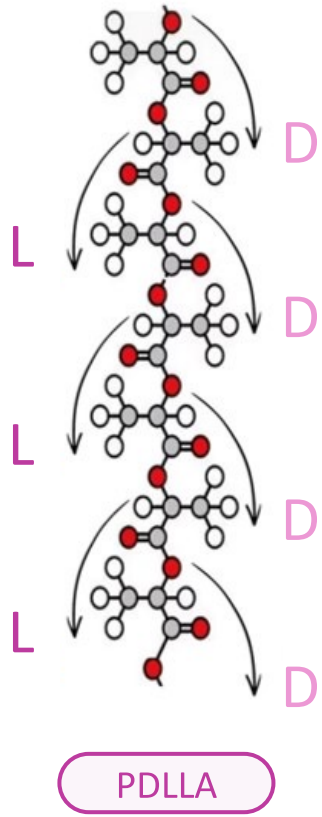
PDLLA 聚雙旋乳酸

POLY-D,L-LACTIC ACID

PLA的同分異構物

- PLLA (Poly-L-Lactic Acid)
- PDLA (Poly-D-Lactic Acid)
- PDLLA (Poly-D,L-Lactic Acid)
- Meso poly lactic acid





結構

D型和L型隨機順序結合，增加了接觸的面積

由於其良好的**物理穩定性**和**生物相容性**，被廣泛應用於骨科和藥物傳輸

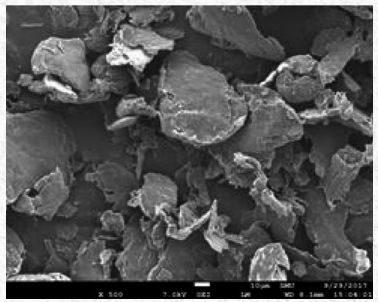
PLLA 聚左旋乳酸VS PDLLA 聚雙旋乳酸

PLLA
聚左旋
乳酸

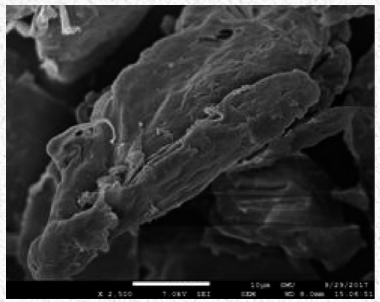
- 外部： 不規則破碎晶體
- 內部： 高壓緊密結構
- 鋒利的粒子邊緣可能導致劇烈的發炎反應

不規則結晶狀易對組織造成明顯發炎反應，導致肉芽腫

破碎玻璃形狀



X500



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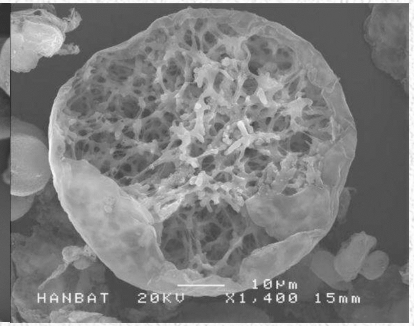
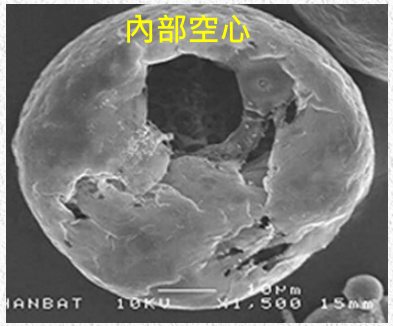
PDLLA
聚雙旋
乳酸

- **外部： 多孔球狀結構**
- **內部:** 網狀海綿型
- 由內而外崩解

其他PDLLA產品的
微粒結構





粒子周圍的pH值變化較緩慢

組織相容性更高，不易引起過度腫脹發炎反應

2023. Jun published. IF: 7.675

antioxidants MDPI

Article

Poly-D,L-Lactic Acid Filler Increases Extracellular Matrix by Modulating Macrophages and Adipose-Derived Stem Cells in Aged Animal Skin

Seyeon Oh [1,†], Suk Bae Seo [2,†], Gunpoong Kim [3], Sosorburam Batsukh [1,4], Chul-Hyun Park [5], Kuk Hui Son [5,*] and Kyunghee Byun [1,4,6,*]

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2 SeoAh Song Dermatologic Clinic, Seoul 05557, Republic of Korea
3 VAIM Co., Ltd., Okcheon 29055, Republic of Korea
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† These authors contributed equally to this work.

(ASCs) are known to attenuate the decrease in fibroblast collagen synthesis that occurs during aging, and nuclear factor (erythroid-derived 2)-like-2 factor (NRF2) increases ASCs survival by inducing
senescence model and aged animal skin. PDLLA increased M2 polarization and NRF2 and IL-10 expression in senescence-induced macrophages. Conditioned media from senescent macrophages
increased the expression of collagen 1a1 and collagen 3a1 and reduced the expression of NF-κB and MMP2/3/9 in senescence-induced fibroblasts. Injection of PDLLA in aged animal skin resulted in increased expression of NRF2, IL-10, collagen 1a1, and collagen 3a1 and increased ASCs proliferation in aged animal skin. These results suggest that PDLLA increases collagen synthesis by modulating macrophages to increase NRF2 expression, which stimulates ASCs proliferation and secretion of TGF-β and FGF2. This leads to increased collagen synthesis, which can attenuate aging-induced soft tissue volume loss.

Keywords: aged skin; NRF2; macrophage; collagen; elastic fiber

Antioxidants 2023, 12, 1204. https://doi.org/10.3390/antiox12061204

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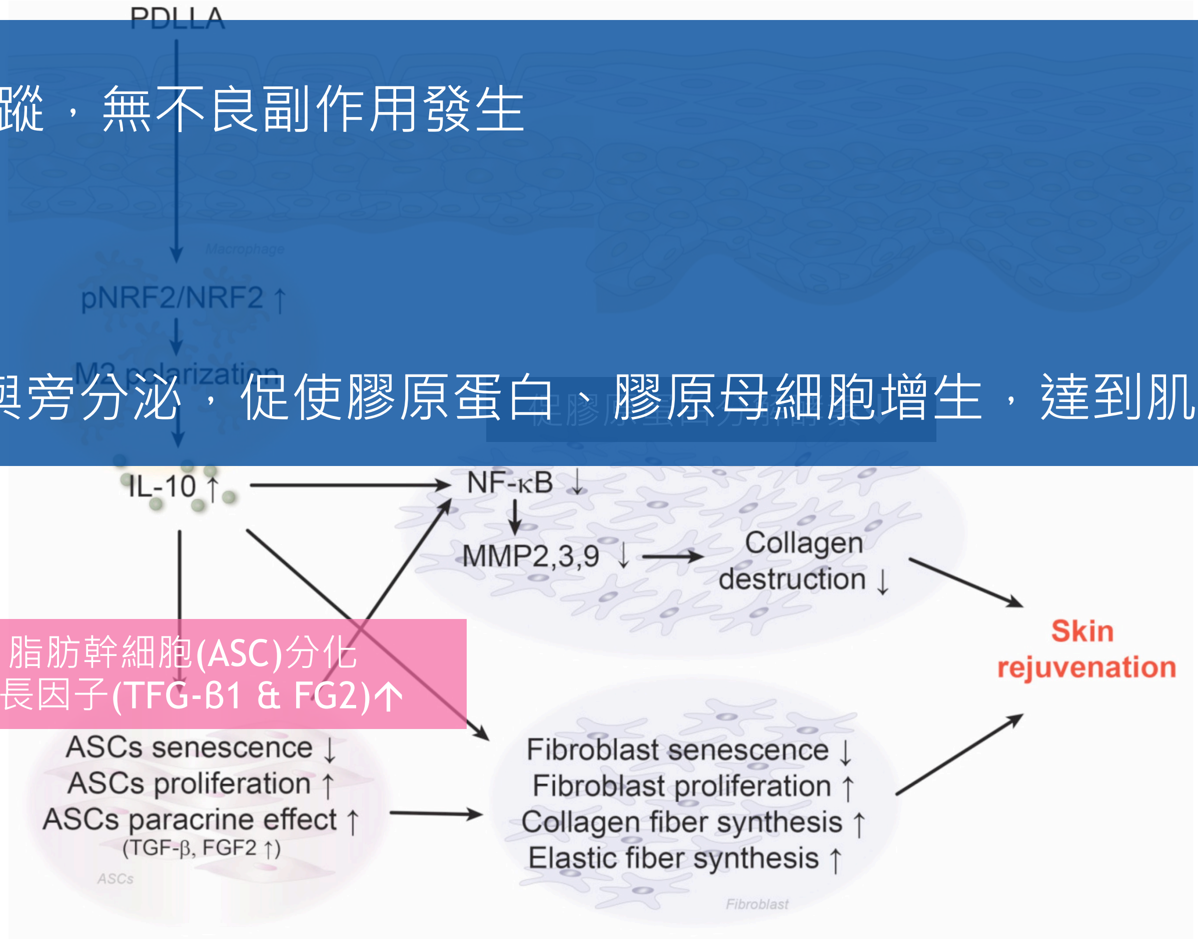
Accepted: 29 May 2023
Published: 1 June 2023

1. Introduction

The main inducing factor in skin aging is oxidative stress [1]. Oxidative stress results from an imbalance between the generation and removal of reactive oxidative species (ROS). ROS accumulation leads to the degradation of biological molecules, resulting in cell death and inflammation [2]. Matrix-degrading metalloproteinases (MMPs) degrade connective tissue by destroying the extracellular matrix (ECM), resulting in reduced dermal thickness and elasticity and skin wrinkles [3]. Nuclear factor (erythroid-derived 2)-like-2 factor

However, a multicenter randomized clinical trial that evaluated safety for 24 months found that PDLLA filler did not cause serious complications [67]. Some studies reported that PDLLA has a shorter reconstitution time and lower requirement for reconstitution water than PLLA [68]. Furthermore, complications such as nodule formation are less reported for PDLLA than for PLLA [68]. Because PDLLA has a porous structure, the total volume of a given weight of PDLLA filler is much higher than that of the same weight of PLLA filler, which results in a greater early-stage volume-restoring effect for PDLLA [68].

- 聚雙旋乳酸(PDLLA) 注射後長達2年的觀察與追蹤，無不良副作用發生
- 聚雙旋乳酸(PDLLA)的結節發生率更低
- 聚雙旋乳酸(PDLLA)的前期支撐效果更好
- 聚雙旋乳酸(PDLLA)促使ASC(脂肪幹細胞)增生與旁分泌，促使膠原蛋白、膠原母細胞增生，達到肌膚回春

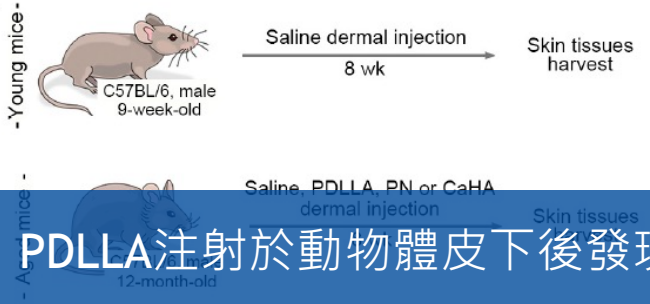


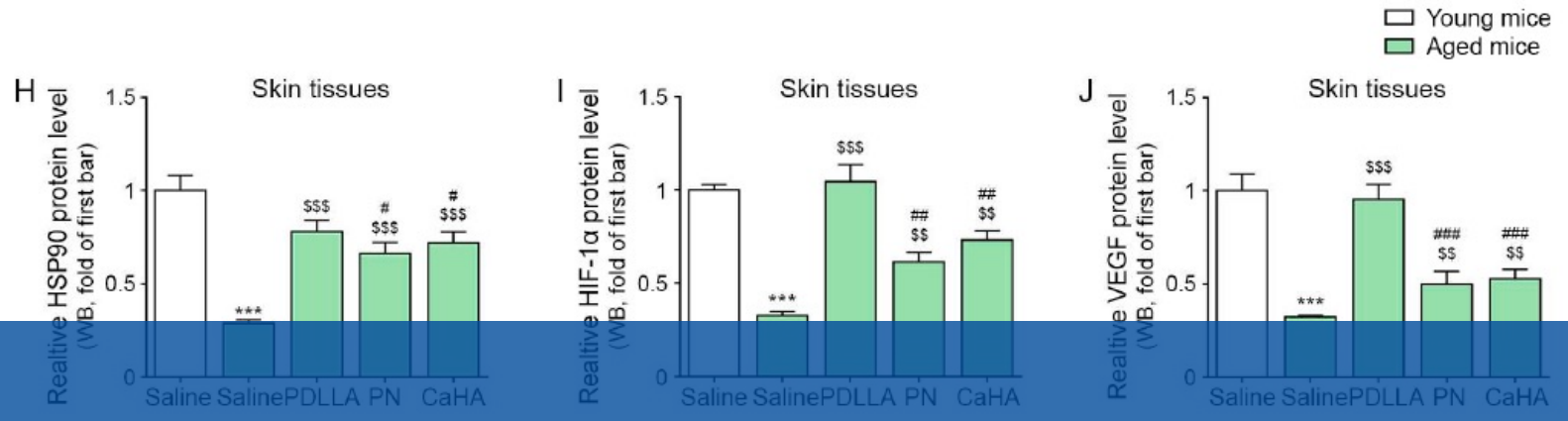
International Journal of Molecular Sciences
MDPI

Article

Poly-D,L-Lactic Acid Stimulates Angiogenesis and Collagen Synthesis in Aged Animal Skin

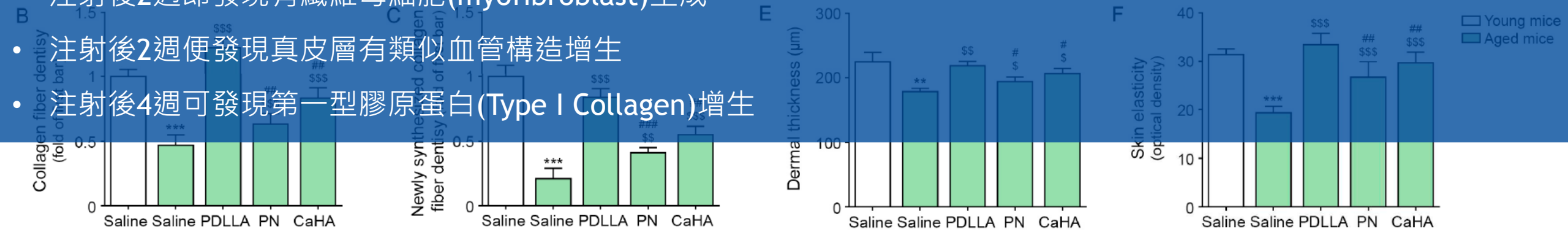
Seyeon Oh [1], Suk Bae Seo [2], Gunpoong Kim [3], Sosorburam Batsukh [1,4], Kuk Hui Son [5,*] and Kyunghee Byun [1,4,6,*]





PDLLA注射於動物體皮下後發現：

- 注射後2週即發現有纖維母細胞(myofibroblast)生成
- 注射後2週便發現真皮層有類似血管構造增生
- 注射後4週可發現第一型膠原蛋白(Type I Collagen)增生



相較於其他材質，PDLLA於打完8週後可發現擁有最好的表現(均有顯著差異)：

- 膠原蛋白增生相關特定蛋白表現量最高(HSP90/HIF-1 alpha/VEGF)
- 膠原纖維厚度最厚&新生膠原纖維量最多
- 真皮層厚度增生最顯著 & 肌膚彈性最優

高安全 不殘留體內

PDLLA植入體內56週以上，免疫反應極低(巨噬細胞&巨大細胞)

經過72週後，PDLLA已被生物體完全分解

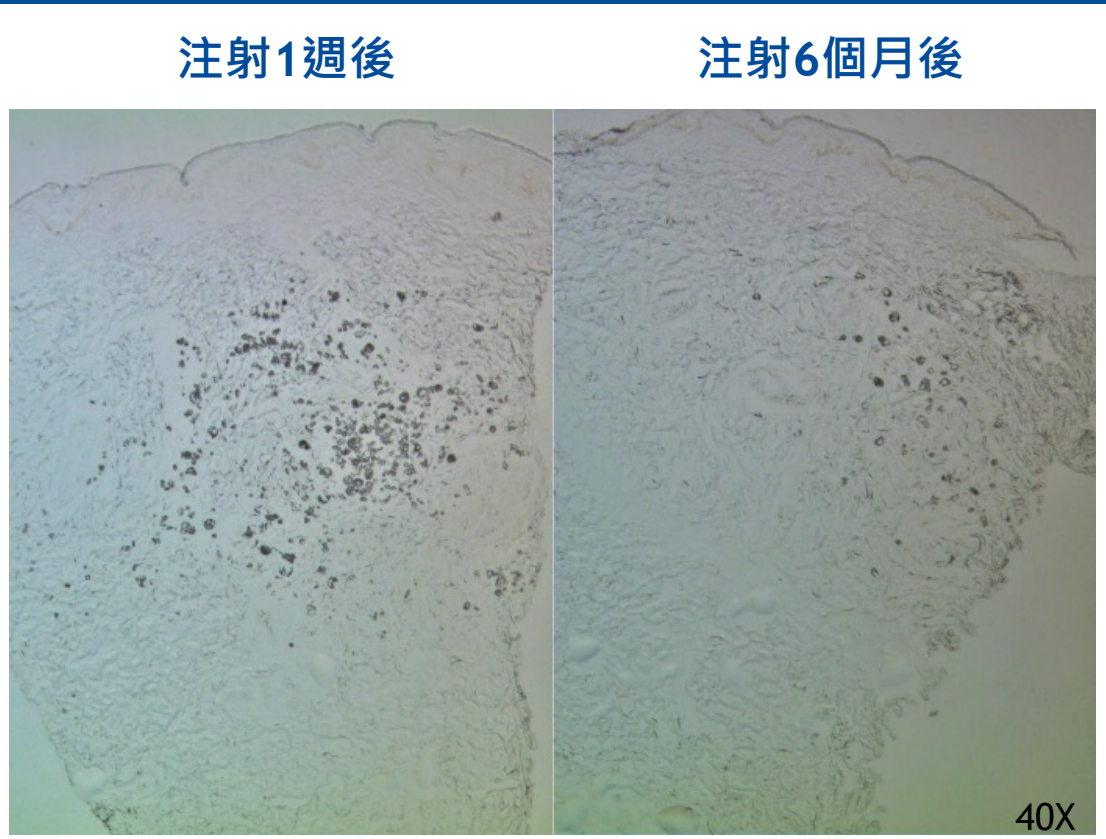
Tissue reaction to pure PDLLA. Results of histological examination[a]

	Weeks 4–8	Weeks 28–32	⩾ Week 56
Macrophages	+ +	+ +	(+)
Giant cells	+ +	+	–
Lymphocytes	+	+ +	+ +
Connective tissue	+	+/+ +	+
Blood vessels	(+)	+ +	+

[a] – = absent, (+) = scarce, + = occasional, + + = moderate, +/+ + = abundant.

Biomaterials 22 (2001) 2371}2381

PDLLA粒子在六個月(24週)後顯著減少



高安全 不用擔心結節

低玻璃轉化溫度

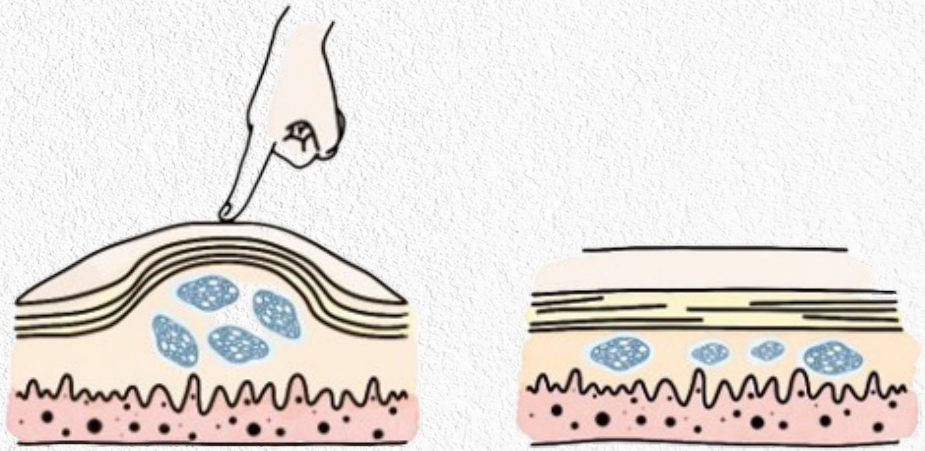
M_v	T_g(℃)	M_v	T_g(℃)
Dry PDLLA tablets		Hydrated PDLLA tablets	
$21.7x10^3$	45.8	$21.7x10^3$	34.4
$41.8x10^3$	47.8	$41.8x10^3$	37.0
$69.0x10^3$	49.0	$69.0x10^3$	37.8
$136.5x10^3$	49.5	$136.5x10^3$	37.7
$241.5x10^3$	50.2	$241.5x10^3$	39.0

Mv, viscosity average molecular weight; Tg, glass transition temperature of dry polymer

玻璃轉化溫度(Glass Transition Temperature, Tg)

如何消除結節？

透過皮下加熱達40℃之能量設備(如電波、微針等)，並輔以加壓按摩，幫助PDLLA均勻散開



Juvelook & Lenisna

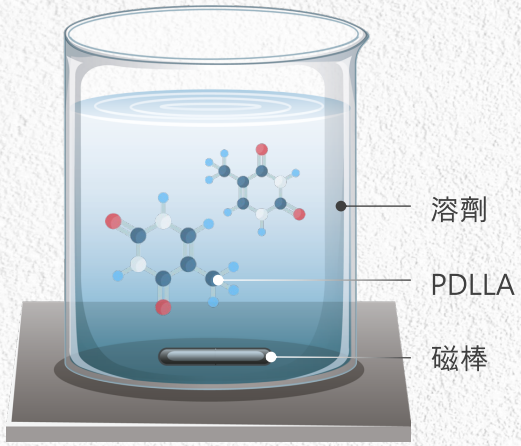
規格與技術

產品規格

成分	Poly-D,L-Lactic Acid +	Non-crosslinked Hyaluronic acid
劑型	凍晶乾燥粉末	
容量	50mg (PDLLA 42.5mg + HA 7.5mg) (85 ： 15) ＊市面上最高PDLLA濃度	200mg (PDLLA 170mg + HA 30mg) (85 ： 15)
粒子大小	20 ~ 40μm	40 ~ 80μm
注射皮膚層	**真皮 / 皮內** ＊市面上唯一可以注射在真皮的PLA填充劑	**皮下**
持久度	12 ~ 16個月	18 ~ 24個月
療程次數	3 次療程，療程間隔一個月	

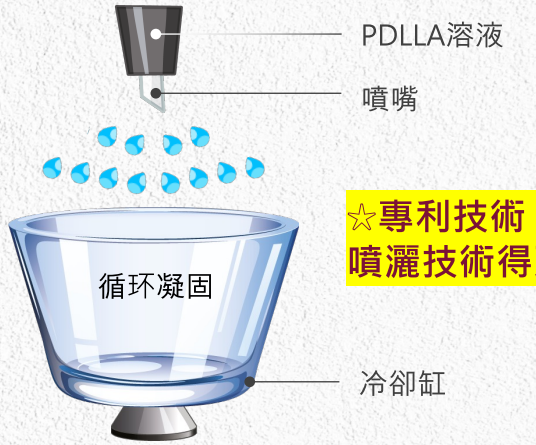
製造過程

01
製作PDLLA溶液



攪拌容器

02
噴灑PDLLA溶液

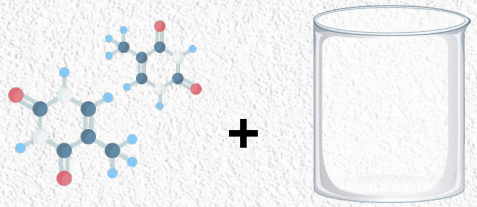


☆專利技術：
噴灑技術得到PLA粒子

將n-hexane冷卻到-5°C

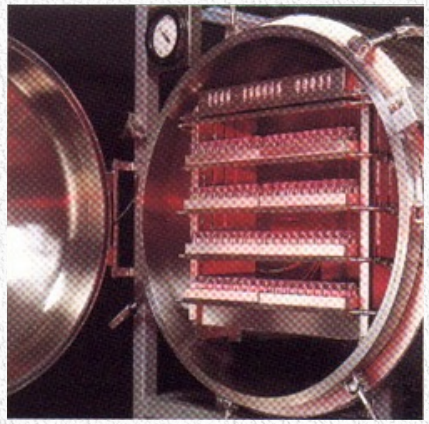
通過鹽反應
去除內部孔隙中的溶劑

03
結合PDLLA+HA



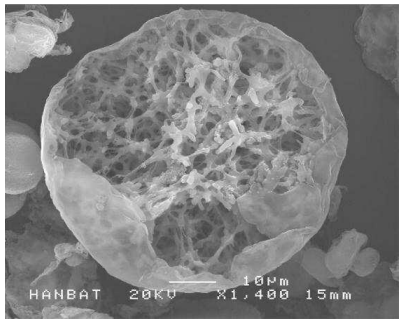
PDLLA乾燥粒子　透明質酸鈉

04
凍晶乾燥



05
EO Gas滅菌

製造專利



1

網狀結構的聚合物微粒
的製造方法

2

製備聚乳酸微粒的專利噴霧法

Juvelook & Lenisna

臨床操作

建議稀釋比例

5ml 生理食鹽水/無菌蒸餾水

1ml 2% 利多卡因

Total 6ml

7ml 生理食鹽水/無菌蒸餾水

1ml 2% 利多卡因

Total 8ml

建議泡製方式

方法一.

稀釋後靜置室溫24小時，施打前震盪後即可使用

方法二.

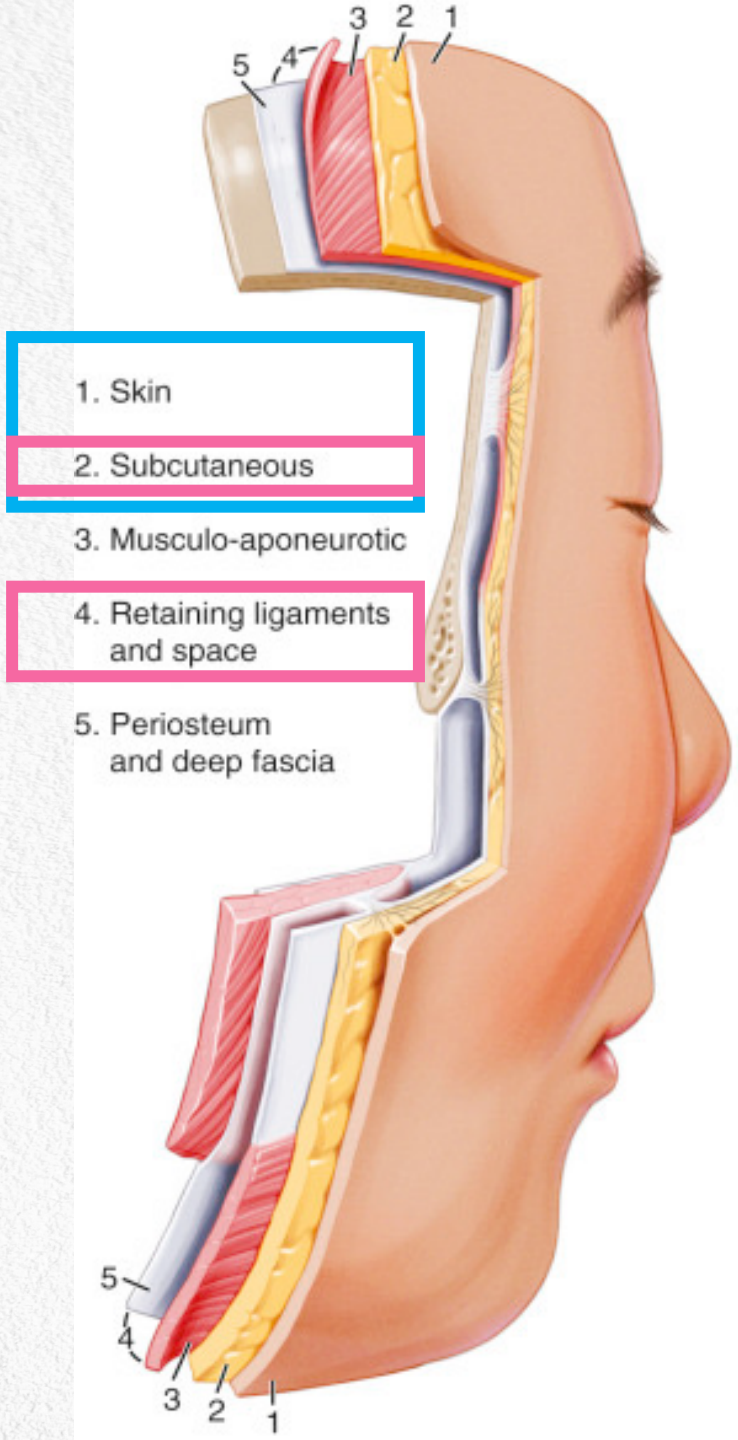
施打當天稀釋後震盪30分鐘，即可直接施打

**泡製後如未使用完畢，可4℃冷藏最多10天

**請務必留意稀釋的無菌操作

**根據經驗，蒸餾水溶解度較高，
但生理食鹽水打起來痛感較低

建議施打層級



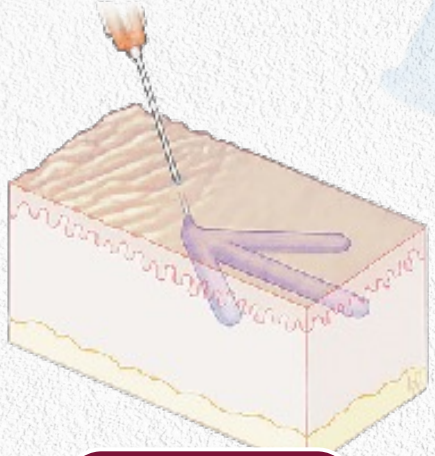
注射Keynotes：

- 施打深度比過往材料都來的更淺層
- Juvelook(小分子)建議可用30-31G Needle
- Lenisna(大分子) 建議可用23-25G Cannula
- 注射原則：對的深度後扇形鋪平
- 初期注射，寧願少量也不要多(多次治療)
- 韓國醫師經驗分享：脖子建議用頓針(即使是Juvelook)

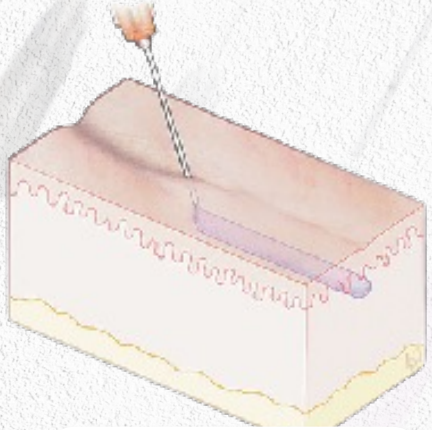
	JuveLook	LENISNA
1. Skin (epidermis/dermis)	↕	
2. Subcutaneous fat (Sub Q)	↕	◇
3. SMAS/Platysma muscle	↕	◇
4. Superficial fascia/SMAS	↕	◇
5. Deep Facial Fascia	↕	
6. Masseter muscle	↕	

LENISNA® 使用鈍針

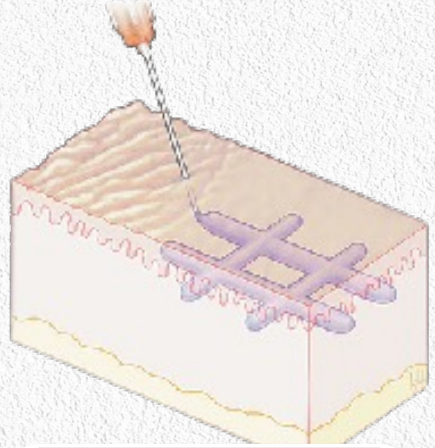
23-25G Cannula



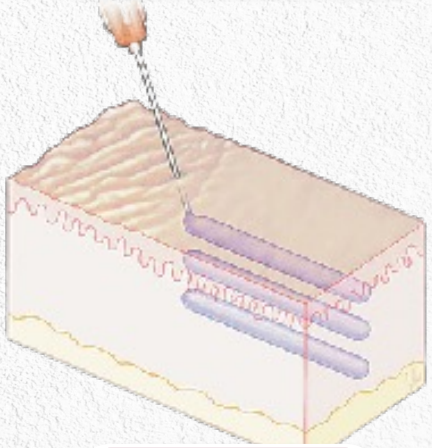
扇形注射法



直線注射法



垂直交叉注射法



分層注射法

治療部位

水光療程

細紋

眼下淚溝

痘疤/疤痕

頸紋

全臉水光或回春2-3ml

疤痕採局部單點施打 **淚溝施打單邊0.3-0.6ml不等**

一個掌心範圍(不含手指)，用量大約8ml(1瓶)

胸口皺紋

掰掰袖

腹部鬆弛

手背

臀部

大腿

額頭

夫妻宮

頰凹

法令紋

木偶紋

下巴輪廓

LENISNA®

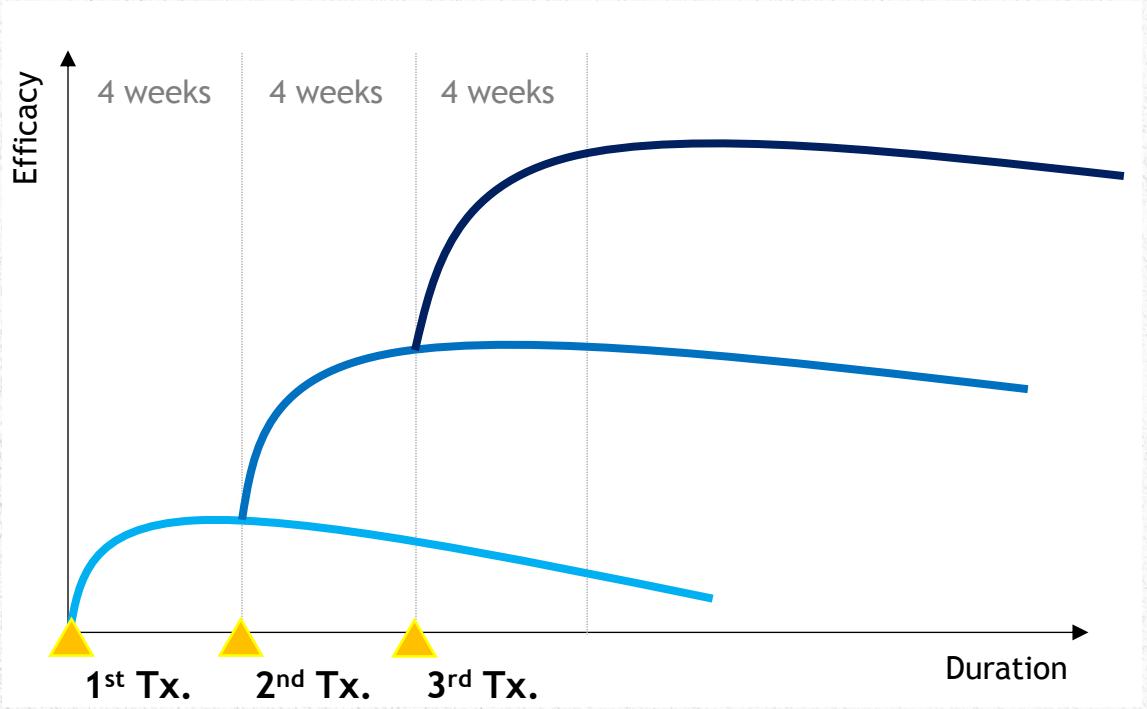
JuveLook LENISNA 注射後反應

立即的支撐作用：非交聯玻尿酸

- 與本身的混合水量有關
- 注射後1-2週內因水分被人體吸收，進而減少部分體積

組織增生反應(最主要的膠原新生作用)：聚雙旋乳酸(PDLLA)

- 注射後2週即發現有纖維母細胞(myofibroblast)生成
- 注射後4週可發現第一型膠原蛋白(Type I Collagen)增生
- 通常注射2-4週後開始，患者可感受到膠原增生效果



注射後初期部分消是正常的、基礎建議治療3次(疤痕治療通常超過)、**單點推量不貪心**

Juvelook & Lenisna

術前後注意事項

禁忌症

- ✕ 曾對PDLLA、PLA、利多可因或玻尿酸有過敏經驗的患者
- ✕ 免疫力低下患者
- ✕ 孕婦、哺乳婦女
- ✕ 小於19歲未成年者
- ✕ 治療部位目前有皰疹或其他開放性傷口
- ✕ 未經醫師諮詢
- ✕ 嚴禁於全身麻醉下使用
- ✕ 本產品不可注射於血管內，針對蟹足腫等增生性疤痕體質安全性尚未確立

術後衛教

- 術後副作用可能出現腫脹、壓痛感、針孔、微出血、瘀青等屬於正常狀況
- 術後立即可配合冰敷治療區域約10-15分鐘，減緩不適感
- 術後可依情況，開立預防性口服或外用消炎藥物
- 注射後6小時內，建議不要上妝以防傷口感染
- 治療後無須刻意按摩
- 如有用阿斯匹靈或抗凝血藥物，請注意這會增加注射部位瘀青、腫脹及流血的跡象

Juvelook & Lenisna

治療效果

建議施打方式

01

手動操作施打(建議針具)

Juvelook: 30-31G

Lenisna: 23-25G

02

水光注射器

水光槍

03

微針電波（RF）

04

無針注射器

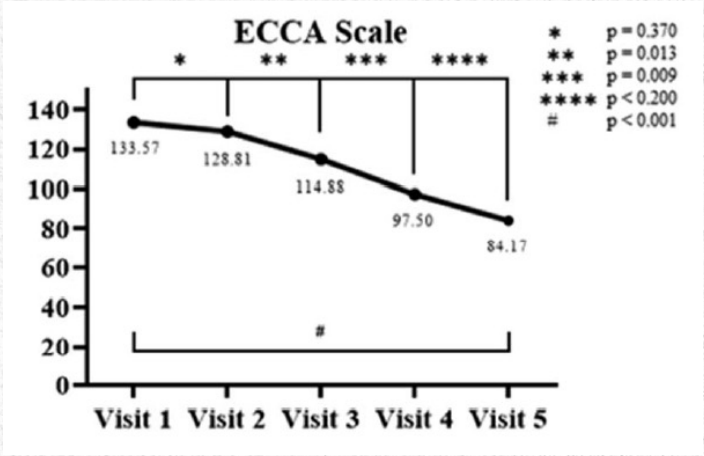
凹陷型痘疤(合併治療)

4次治療(結合微針RF與Juvelook，間隔一個月)

Acne scar assessment

After the second treatment, significant improvement was observed

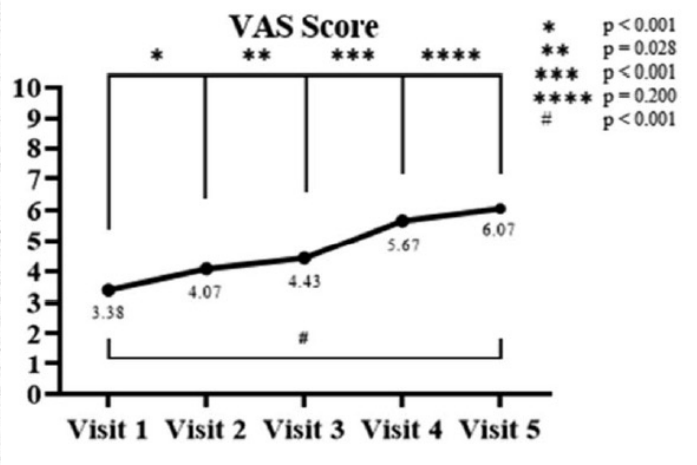
a significant difference
36.99%
from base to the last visit



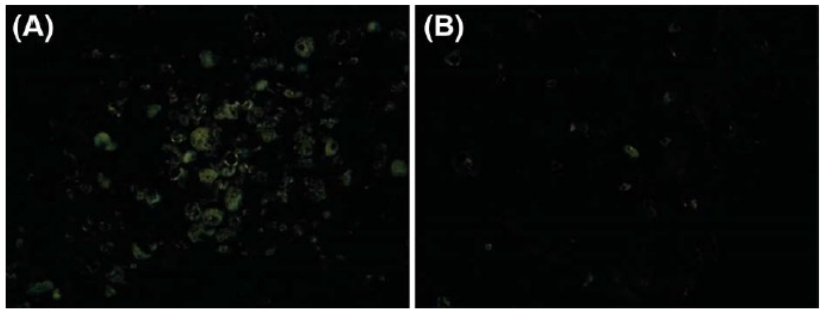
Patient's satisfaction

Between treatment sessions, a significant difference at each visit

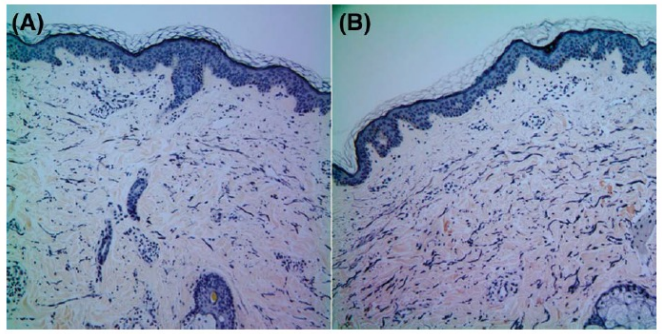
a significant difference
79.56%
from base to the last visit



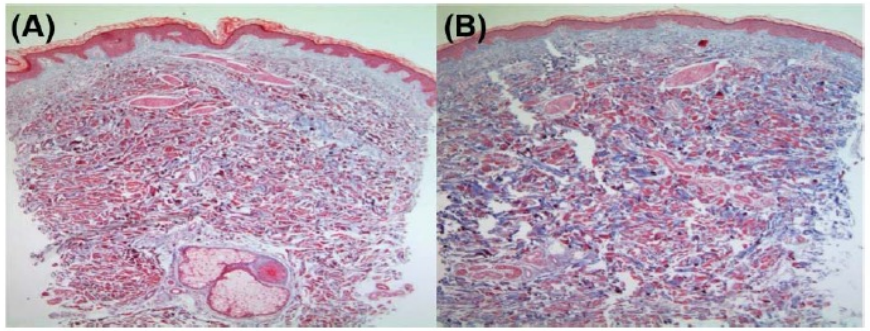
Histopathologic Findings



五個月後，PDLLA幾乎完全被代謝



彈力纖維顯著增加(5個月後)



膠原纖維顯著增加(5個月後)

Intradermal Injection of Poly-D, L-Lactic Acid Using Microneedle Fractional Radiofrequency for Acne Scars: An Open-Label Prospective Trial, 2022 – Microneedling RF

凹陷型痘疤(合併治療)

before　　1Tx. After 2-3 month

before　　1Tx. After 2-3 month

Needle-Free Jet Injection of Poly-(Lactic Acid) for Atrophic Acne Scars: Literature Review and Report of Clinical Cases, 2024 – MIRAJET/CUREJET

Before & After

毛孔與泛紅

BEFORE | AFTER | BEFORE | AFTER

1 month after 4Tx. Of 1/3 vial of Juvelook each session (手動注射)

Before & After

毛孔與泛紅

Before & After

恢復肌膚
光澤彈力

BEFORE

AFTER

Juvelook + RF + Pico

Before & After

恢復肌膚光澤彈力

BEFORE

AFTER

1 month after 4Tx. Of 1/3 vial of Juvelook each session (手動注射)

Before & After

萎縮型痘疤

BEFORE

AFTER

Before & After

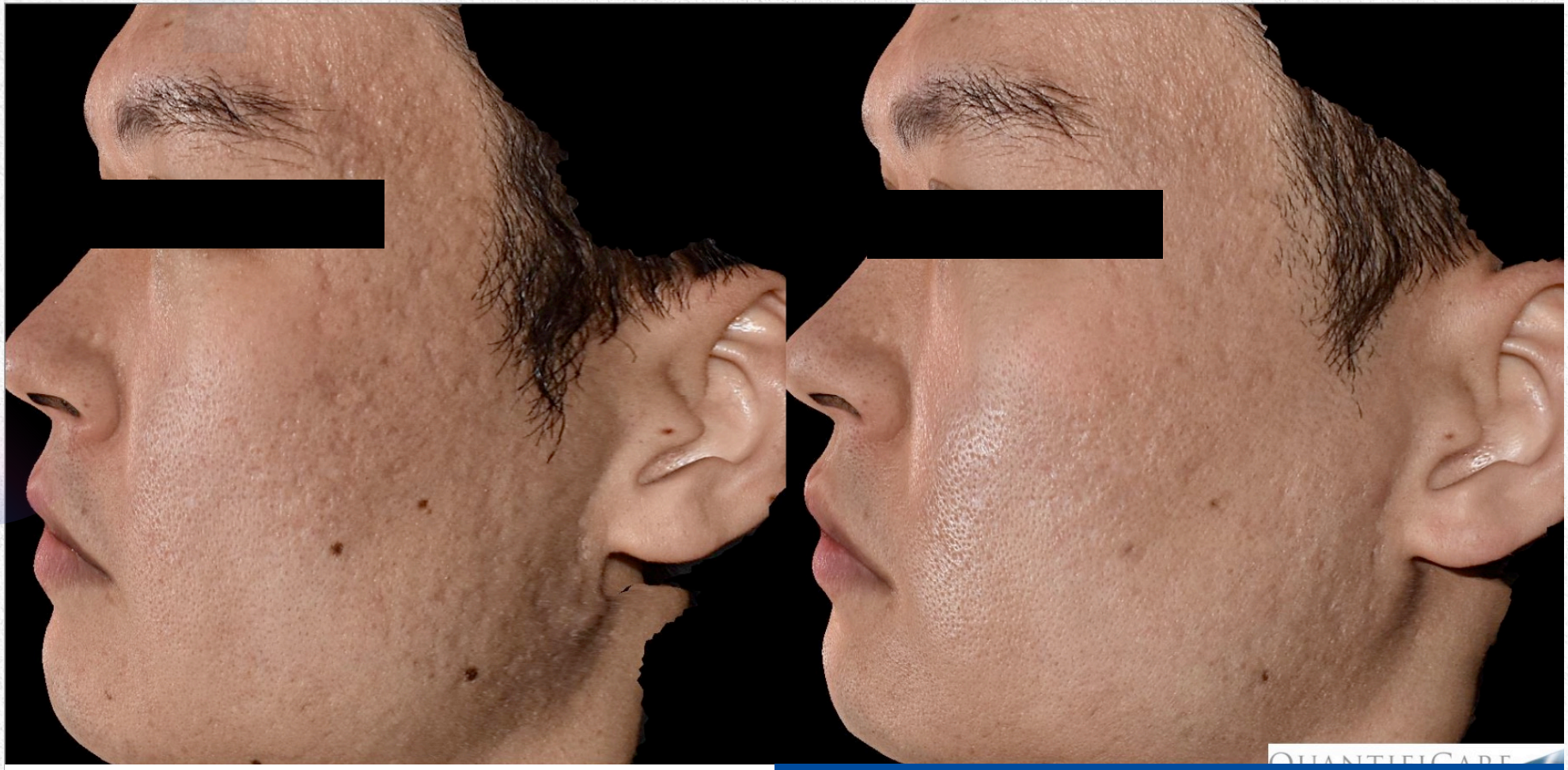
萎縮型痘疤

BEFORE AFTER

5 Tx. Of Juvelook intradermal injection + microneedling RF

Before & After

萎縮型痘疤



BEFORE

AFTER 3 Tx. Of Juvelook

Before & After

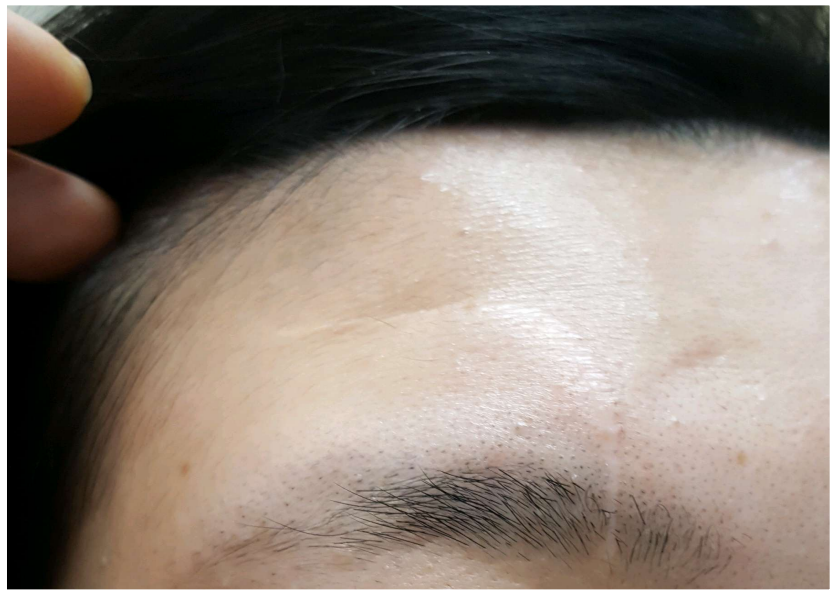
萎縮型痘疤

BEFORE

AFTER 3 Tx. Of Juvelook

Before & After

凹陷型傷疤



BEFORE

AFTER

Before & After

凹陷型傷疤

BEFORE

AFTER

1 month after 3Tx. Of Juvelook each session (手動注射)

Before & After

淚溝

BEFORE

AFTER

Before & After

頸紋

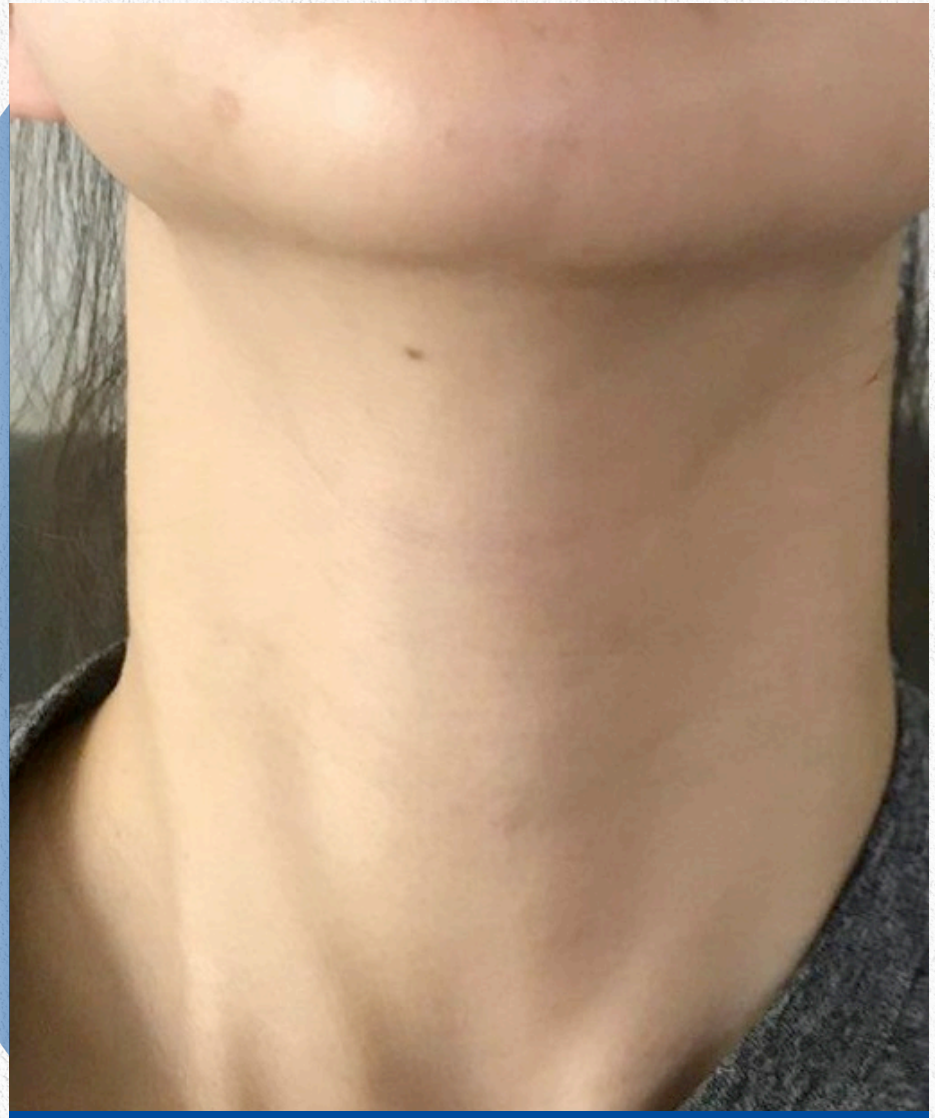
BEFORE

AFTER

Before & After

頸紋

BEFORE

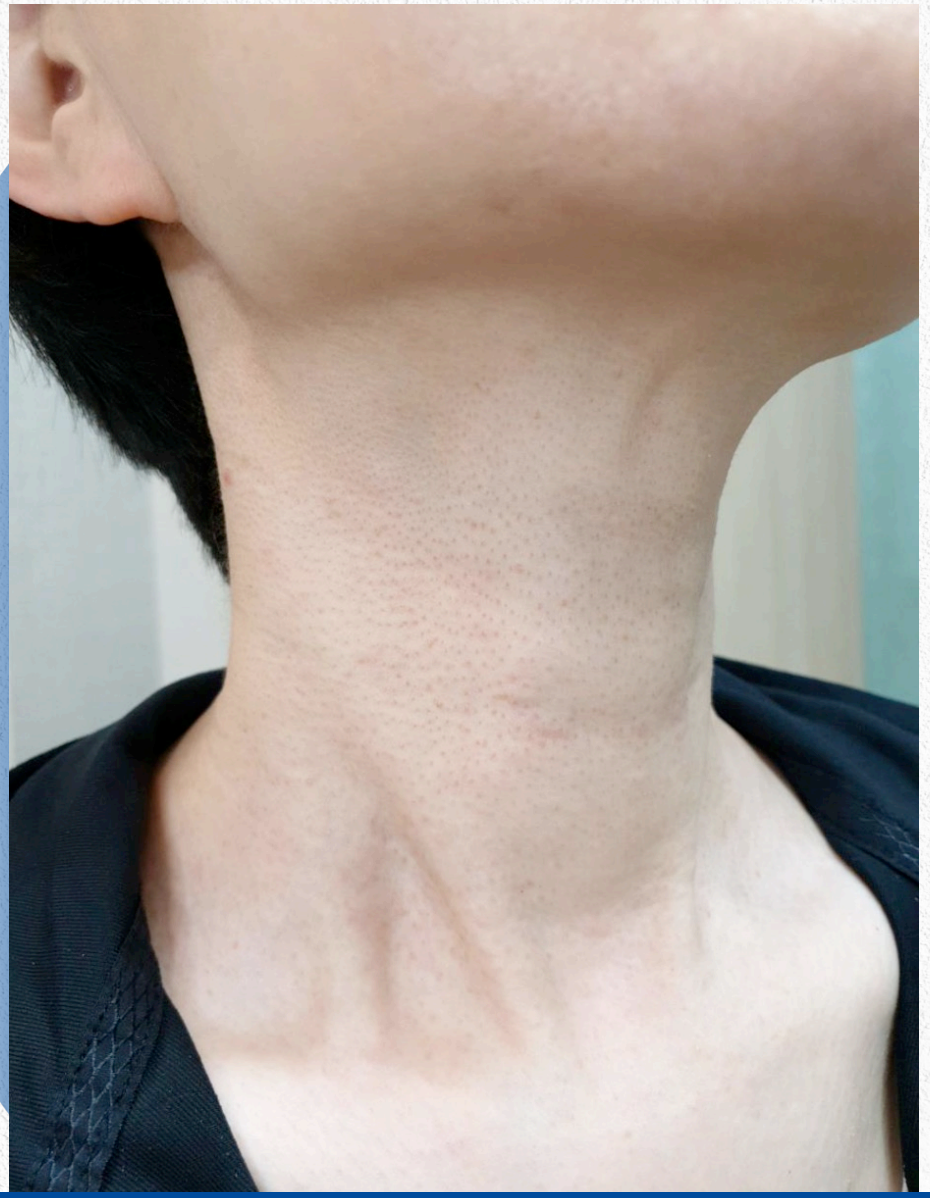


AFTER 1 Tx. Of Juvelook (mirajet)

Before & After

頸紋

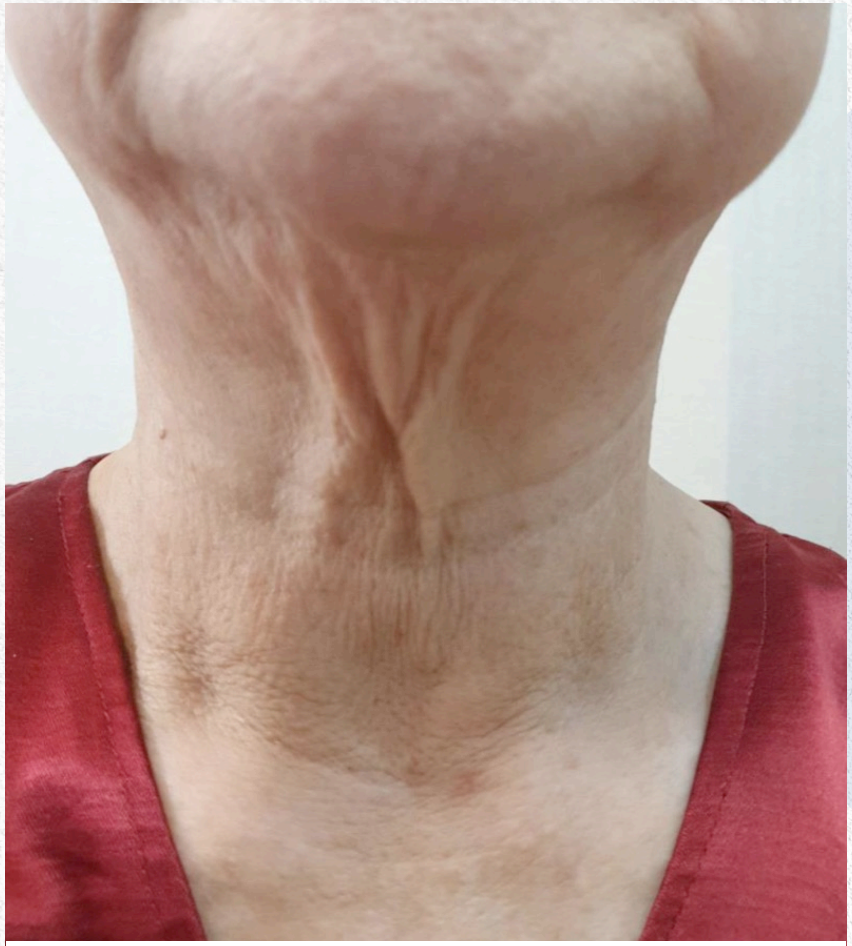
BEFORE



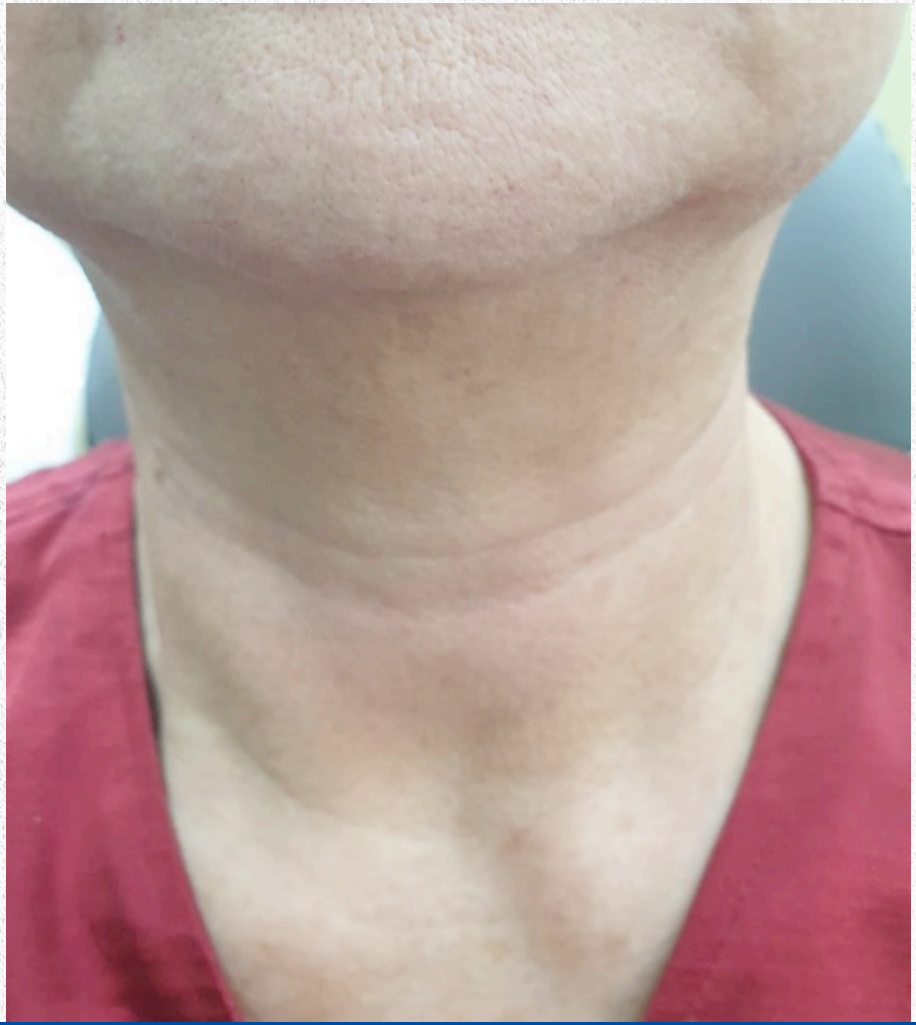
2 month after 2nd Juvelook (+ microneedling RF)

Before & After

頸紋



BEFORE



1 month after 2nd Juvelook (+ microneedling RF)

Before & After

深層皺紋
(法令纹+木偶纹)

BEFORE

AFTER

Before & After

法令紋、木偶紋

BEFORE

AFTER

Before & After

除皺

Before & After

臉部輪廓重塑

BEFORE

AFTER

Before & After

豐盈額頭

BEFORE

AFTER

3 month after 2Tx. Of Lenisna

Before & After

生長紋

BEFORE

AFTER

Before & After

臀部緊緻

BEFORE

AFTER

Before & After

肌膚鬆弛

BEFORE

AFTER

Before & After

肚皮緊實

三次治療(間隔3個月) 5-point entry

每次5瓶Lenisna, total 40ml

Before & After | 全臉回春

Before & After

凹陷傷疤

Before & After

大範圍痘疤

5 Tx. Of Lensina intradermal injection + microneedling RF

Before & After

嚴重凹陷痘疤

4 Tx. Of Lensina + 1 Tx. microneedling RF

WHY JUVELOOK

1. **韓國銷售市佔第一的膠原蛋白增生劑**

   2022 & 2023連續獲得韓國消費者大賞 “Skin Booster of the year”

2. **全球銷售超過70多國，榮獲KFDA與CE認可**

3. **高生物相容性，高安全性**

   PDLLA微粒可在人體被完全分解，不殘留

   玻尿酸載體可降低術後腫脹

4. **專利微粒製程技術**

   不同微粒大小適合應用於不同適應症

   Juvelook為目前少數可用於真皮層注射之組織增生劑

5. **低修復期，百搭診所各式療程**


Soft Tissue Injectable Implant
Juvelook
PLA / HA
HYBRID IMPLANT
PLA/HA HYBRID IMPLANT
Disposable Medical Device
50 mg/vial
Tissue Injectable Implant
Juvelook
JuveLook
喬雅露 | 新童妍
200
CE
2764
Soft Tissue
Injectable Implant
Lenisna 200
PLA/HA Soft Tissue Injectable Implant
STERILE EO
VAIM
Tissue Injectable Implant
Lenisna 200