



AIAM



NON SURGICAL
COLLAGENESIS AND LIFTING WITH
**ABSORBABLE POLYDIOXANONE
(PDO) THREADS**

ABSORBABLE
PDO THREADS
COURSE WORKBOOK





WORKBOOK:

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THE DEFINITION & HISTORY OF POLYDIOXANONE (PDO) THREADS

Polydioxanone (PDO/PDS) is a biodegradable, crystalline, colorless synthetic polymer used to create medical applications such as sutures. Polydioxanone (PDO/PDS) synthetic materials were amongst the first used for degradable devices. PDO has been used as a cutaneous and subcutaneous suture material in plastic, cardiothoracic and trauma surgeries for over 30 years. They were used as an augmentation to support the critical repair of the ACL or the autograft ACL.

Barb Sutures were first described by Alcamo in 1961 and 1964, Fukuda in 1984, Buncke in 1999, and Ruff in 2001, they were made and predominantly utilized for suturing wounds without having to tie knots. The first cosmetic application of barbed threads in the face was by Marlen Sulamanidze et al. He created the **Aptos Lift Sutures** which were first introduced in 1999 and then results published in 2000. **Contour Threads** were also amongst the first known sutures for aesthetic procedures. They were made of polypropylene (permanent material) and suffered many early complications, inevitably withdrawn from the market in 2007. **Polydioxanone Threads** are fully absorbable, hypoallergenic, monofilaments that have been used in biomedical applications (particularly cardiothoracic surgery) for decades. These types of sutures were first introduced to the world in the 1990s.

Now, with the evolving field of aesthetic medicine and the desire for quick and immediate results, PDO Threads have reemerged and are used to delicately reposition the skin and stimulate new collagen. The threads are loaded on either a '**sharp needle**' or '**blunt cannula**' and then inserted into the skin (through one entry point). The threads stay positioned under the skin, while the foreign body introduced results in new collagen production and improved skin condition. Some threads have small incisions, causing a barbed effect, that lift and reposition the skin to bring back the natural "**V-shape**." Within 4 to 6 months, the PDO thread is completely absorbed and the results will last 8 to 12 months with new collagen. There are NO incisions, NO downtime, and immediate results! Complete training courses on the uses & applications of PDO Threads are provided with AIAM!

PDO THREADS ARE FDA APPROVED FOR SOFT TISSUE APPROXIMATION OF THE SKIN (FACE &/OR BODY).

PDO THREADS: CHARACTERISTICS I



Flexible, durable, lasts 4-6 months.



Hydrophobic.



Broken down by hydrolysis.



PDO Threads do not have antigenic or pyrogenic reactions.



Threads tighten tissue through "net effect".



Results are noticed after 4-6 weeks for mesh techniques, and immediately after barbed techniques.



No Fixation Points – cumulative effect of several sutures placed for collagenesis, mesh formation, or vector pulling.



Higher resilience for first 2-3 months.



Generate neo-collagenesis in the skin.



Mild fibrosis results, which strengthen connective tissue of the skin.

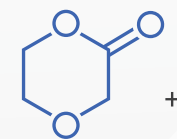


A unique technique because it's inserted inside the injection needle and the free end of the thread is attached to the needle with a sponge.



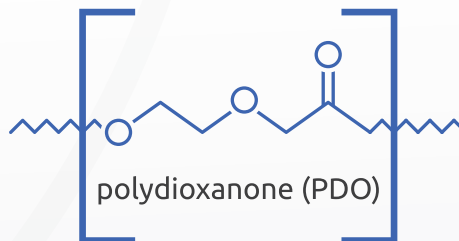
After injection, the needle is removed and the thread stays inside the tissue.

CHEMICAL STRUCTURE



p-dioxanone

+ catalyst + heat =



polydioxanone (PDO)



PDO THREADS: CHARACTERISTICS II



Mesh Action promotes a 'biostimulative effect'.



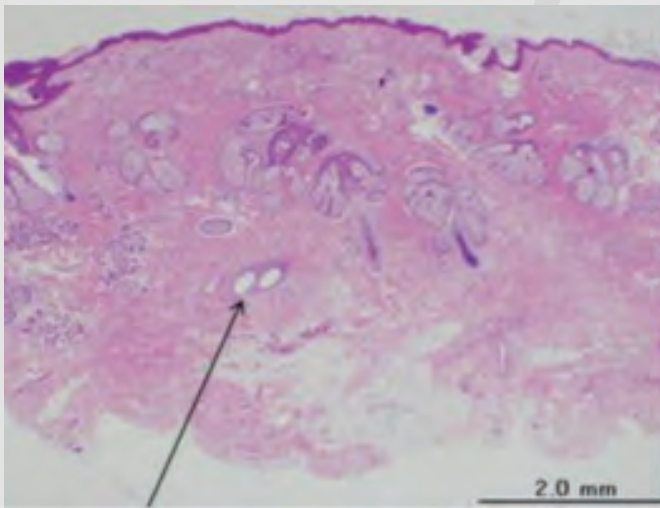
Repeat for optimal results (series of 3-5 sessions, spaced 4-6 weeks apart).



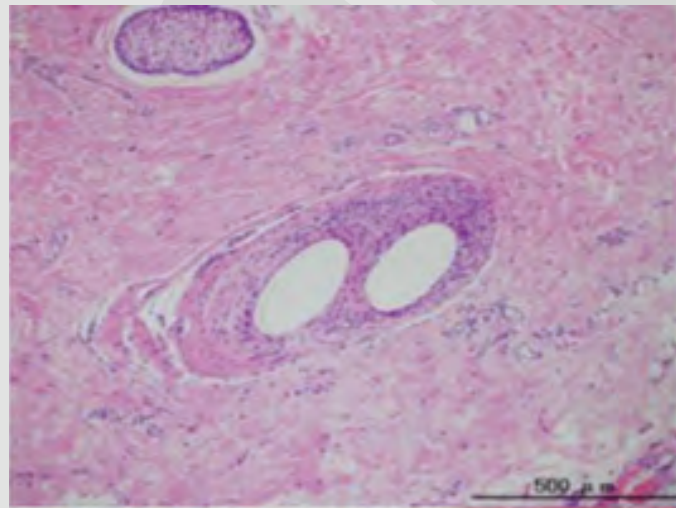
Placing multiple PDO sutures for a resultant net "mesh" effect. Patient will see gradual collagenesis and fibrosis around network of sutures placed.



Moxibustion – aesthetic acupuncture, lymphatic flow, NO release.



PDO Suture



PDO Lymphocytes, Histiocytes, Eosinophils, Fibrosis Suture

LYFT VS. MESH: TECHNIQUES

- **Smooth Threads** create a **Mesh** under the skin in addition to the Biostimulation when re-absorbed.
- **Barbed Threads & Molded Threads** create a **Lyft** of the skin in the direction of the barbs and allow biostructuring when absorbed.

DIFFERENTIATION IN THREADS: SMOOTH, TWIST, BARB & MOLDED


SHARP TIPS

Ultra thin walls in sharp tip needles allow a thicker thread to be preloaded rather than the industry standard.

SMOOTH THREAD

29G x 1"
SUTURE: 1" · 6-0 USP

27G x 2½"
SUTURE: 3 ½" · 5-0 USP



TWIST THREAD

29G x 1½"
SUTURE: 2 ½" · 6-0 USP

27G x 2½"
SUTURE: 3 ½" · 5-0 USP



BLUNT TIPS

Cannulas with blunt tips are usually preloaded which allow them to glide through the tissues preserving nerves and vessels.

SMOOTH THREAD

29G x 1"
SUTURE: 1" · 6-0 USP

27G x 1½"
SUTURE: 1¾" · 5-0 USP



TWIST THREAD

29G x 1½"
SUTURE: 2 ½" · 6-0 USP

27G x 2½"
SUTURE: 2 ½" · 5-0 USP



BARB THREAD

21G x 2½"
SUTURE: 4¾" · 2-0 USP

18G x 4"
SUTURE: 6½" · 0 USP



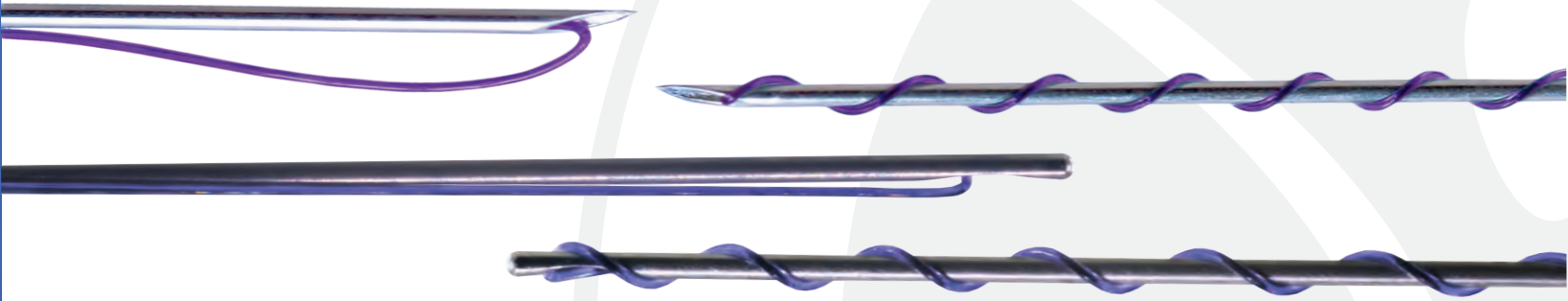
MOLDED PDO THREAD

18G x 4"
SUTURE: 6 ¾" · 0 USP



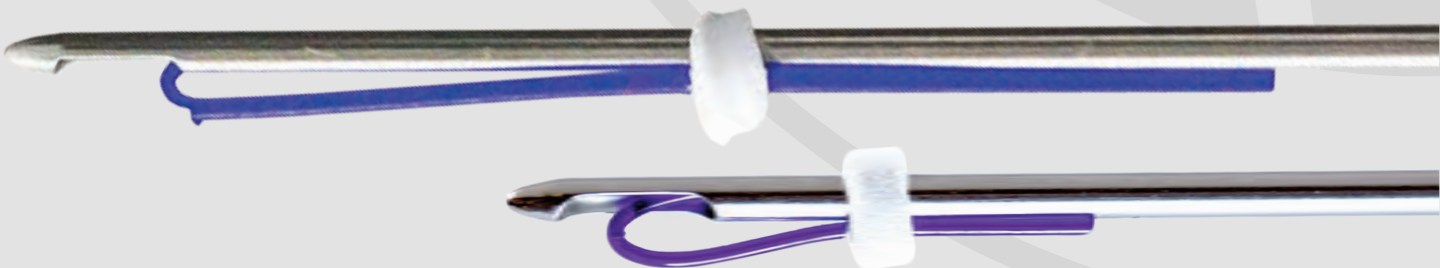
OBJECTIVE OF THE SMOOTHS & TWISTS

- ⦿ Revitalization.
- ⦿ Collagenesis.
- ⦿ Predominantly effective improving the face.
- ⦿ Softening of wrinkles.
- ⦿ Prevention of ptosis and improvement of cutaneous elasticity.



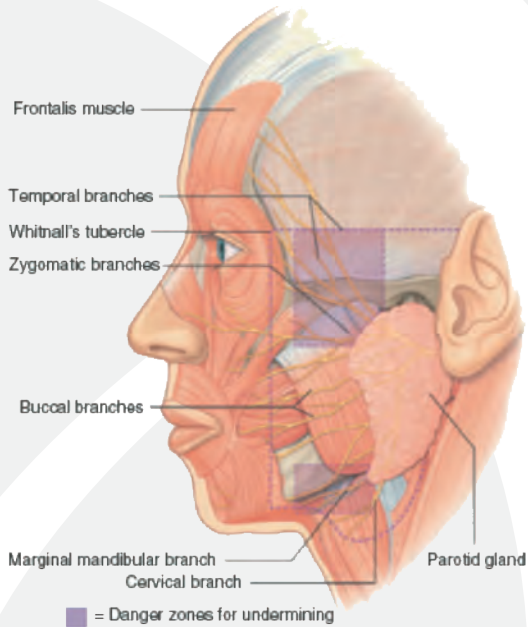
OBJECTIVES OF THE BARBS & MOLDED

- ⦿ Skin Biostimulation.
- ⦿ Skin Repositioning & Lifting.
- ⦿ Instant firmness and tightening of the skin.
- ⦿ Predominantly effective improving the body.
- ⦿ An affordable alternative to plastic surgery.



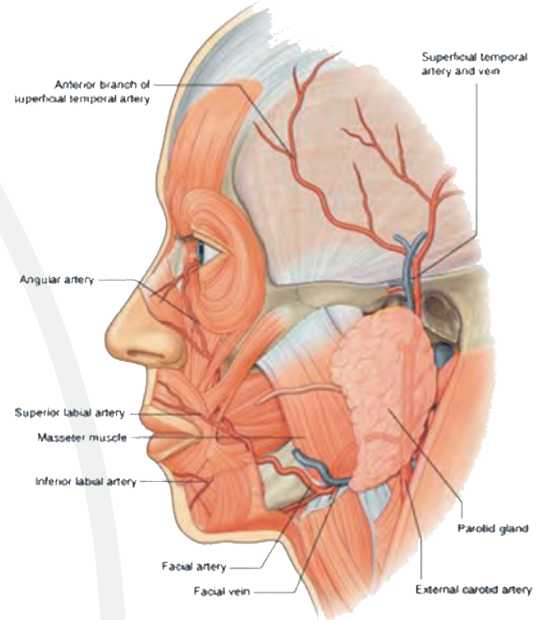
ANATOMICAL LANDMARKS OF THE FACE

BRANCHES OF THE FACIAL NERVE AND DANGER ZONES FOR UNDERMINING



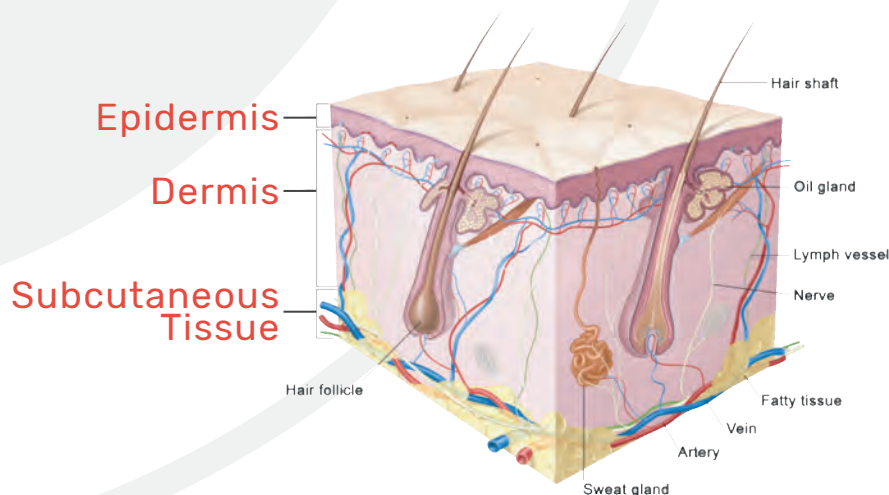
The highlighted points indicate areas of poor protection of the facial nerve which is covered only by skin, subcutaneous and SMAS.

ARTERIAL SUPPLY OF THE FACE

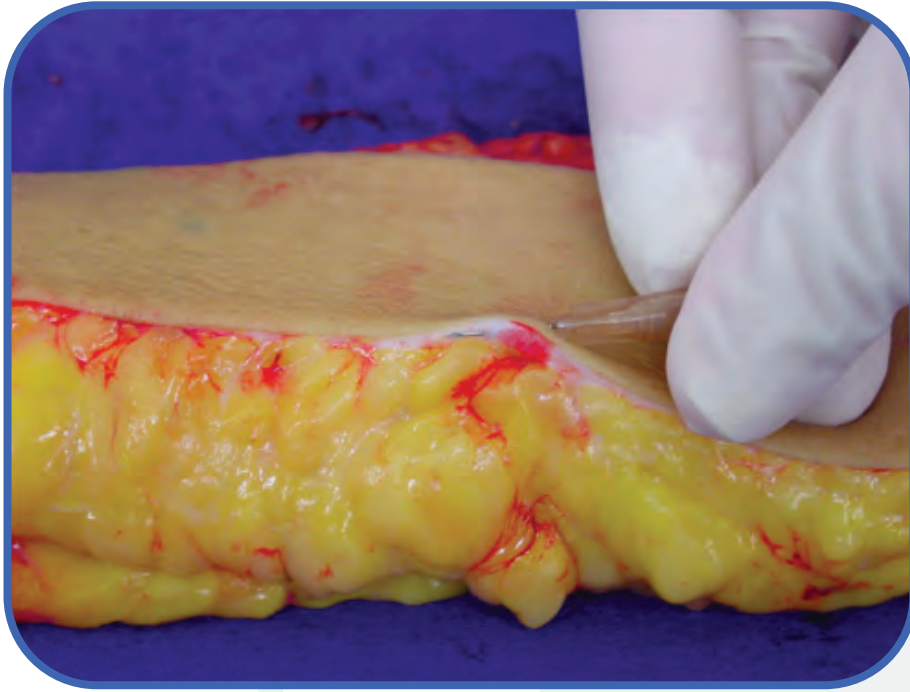


Anatomical distribution of face arteries in relation to the parotid gland and masseter muscle.

SKIN TISSUE PLANES: INFO GRAPHIC



PLANE OF INJECTION: SUBCUTANEOUS PLANE



POSITIVE RESULTS

- ⦿ Increased metabolic activity, blood, and lymphatic circulation of the skin.
- ⦿ Stimulation of skin and soft tissues with PDO sutures.
- ⦿ Neocollagenesis surrounding the sutures.
- ⦿ Immediate lifting results from barb threads.
- ⦿ Improved skin quality and texture.
- ⦿ Absorb within 6-15 months.



TREATMENT PROTOCOLS I:

THE PRE-PROCEDURE

- Take photos before procedure.
- Map area to be treated.
- Take picture of mapping or draw on paper.
- Disinfect treatment area well before procedure (Chlorhexidine wipes).
- Informed consent ▶ discuss irregularity.
- Introduce PDO Threads.

CONTRAINDICATION

- NSAIDS ▶ avoid for 7 days.
- Alcohol ▶ avoid 3 days prior to procedure.
- Aspirin OR Vitamin E ▶ avoid for 10 days.
- No need for antibiotics on a routine basis.
- No need for antivirals unless high risk patients and perioral treatment.
- Acute illness.
- Pregnancy.
- Unrealistic expectations.
- Oncology (chemotherapy).
- Blood disorders.
- Cutaneous neurofibromatosis.
- Psychiatric disorders (picking).
- Tendency toward Keloid scarring.
- Immune System diseases.
- Inflammation of the skin in areas to be treated.
- A non-absorbable implant (Silicone) in the zone of thread insertion.

TREATMENT PROTOCOLS II: THE PROCEDURE

- ① Disinfect treatment area associated with the insertion of PDO Threads.
- ① Place all threads before trimming.
- ① Check for Irregularity, Puckering or Dimpling (have patient smile).
- ① Immediately address any irregularity by slight pull back of thread.
- ① Trim thread.
- ① (Optional) Apply arnica or Vitamin K.
- ① Cold compression only in cases of Hematoma or Hemorrhage.
- ① Take photos after procedure.



FACIAL PHOTOGRAPHY (PRIOR TO AESTHETIC THERAPY)

PROCEDURAL COMPLICATIONS: OVERVIEW



Irregularity / Visibility of threads.



Bruising.



Extrusion.



Potential for infection.



Damage to blood vessels and nerves.



No risk of intravascular injection / blindness / stroke.

IMAGERY EXAMPLES: IRREGULARITY



POTENTIAL FOR INFECTION



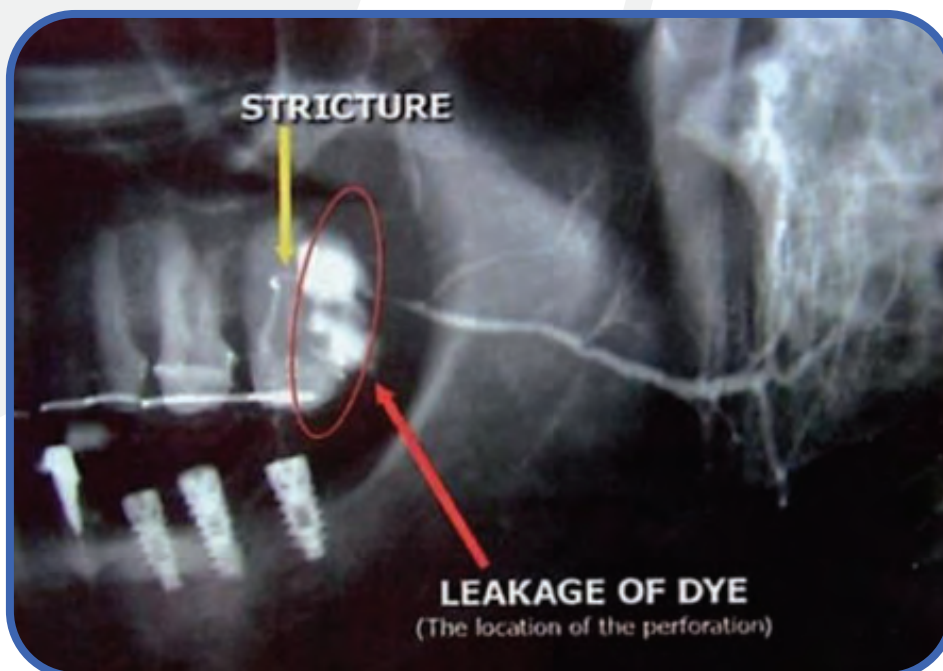
EXTRUSION



NEUROPRAXIA (DEEP INSERTION)



DEEP STRICTURE



HELPFUL HINTS CHART: SMOOTH, TWIST, BARB & MOLDED

| Thread Style | Purpose | Comparable To | Depth | Frequency |
|---------------|---|---|---------------------------|--|
| Smooth | fine lines, texture, reinforce skin quality | neuromodulator, microneedling, co2 laser, ipl | dermal-epidermal junction | 4 to 6 weeks (3 sessions) |
| Twist | fill in the valley or crease | 0.05cc of injectable filler | dermal-epidermal junction | every 3 months as needed |
| Barb / Molded | lift | no comparison! Lifts without volumizing | sub dermal | 6 to 9 months for touch ups, 12-18 months for baseline |

| Order of Treatment | | | | | | |
|--------------------|------------------------------------|--|------------------|------------------------------------|-------------------------------------|-------------------------------------|
| Thread Style | Do These Before Threads | | PLACE THREADS | Do These After Threads | | |
| | Treatment | Time Frame Prior | | Treatment | Time Frame Post | |
| Smooth | Injectable Filler | 1 to 2 weeks | PLACE THREADS | Injectable Filler | Same day if different planes/areas. | |
| | Laser/RF/Heat Generating Treatment | When the skin returns to baseline temperature. | | Injectable Filler | Two (2) weeks if same plane/area. | |
| | Neuromodulators | 1 to 2 weeks | | Laser/RF/Heat Generating Treatment | 8 weeks | |
| | Microneedling | 4 weeks | | Neuromodulators | same day | |
| | IPL | When the skin returns to baseline temperature. | | Microneedling | 4 weeks | |
| | Kybella | full correction result | | IPL | 4 weeks | |
| | Barb Threads | same day | | | | |
| Twist | Injectable Filler | 1 to 2 weeks | | PLACE THREADS | Injectable Filler | Same day if different planes/areas. |
| | Laser/RF/Heat Generating Treatment | When the skin returns to baseline temperature. | | | Injectable Filler | Two (2) weeks if same plane/area. |
| | Neuromodulators | 1 to 2 weeks | | | Laser/RF/Heat Generating Treatment | 8 weeks |
| | Microneedling | 4 weeks | | | Neuromodulators | same day |
| | IPL | When the skin returns to baseline temperature. | | | Microneedling | 4 weeks |
| | Kybella | full correction result | | | IPL | 4 weeks |
| | Barb Threads | same day | | | | |
| Barb / Molded | Injectable Filler | 1 to 2 weeks | PLACE THREADS | | Injectable Filler | Same day if different planes/areas. |
| | Laser/RF/Heat Generating Treatment | When the skin returns to baseline temperature. | | | Injectable Filler | Two (2) weeks if same plane/area. |
| | Neuromodulators | 1 to 2 weeks | | | Laser/RF/Heat Generating Treatment | 8 weeks |
| | Microneedling | 4 weeks | | | Neuromodulators | same day |
| | IPL | When the skin returns to baseline temperature. | | | Microneedling | 4 weeks |
| | Kybella | full correction result | | | IPL | 4 weeks |
| | | | | | Smooth/Twist Threads | same day |

PROCEDURAL MEDICAL INSTRUMENTS: DIAGRAM

- A** Headband.
- B** 3cc Plain Lidocane.
- C** 1cc Lidocane w / Epi.
- D** 18G Needle.
- E** Dermarker.
- F** Gloves.
- G** Silver Gel.
- H** Paper Tape.
- I** Patient Drapes.
- J** Scissors.
- K** Hemostat/Mosquito.
- L** Alcohol Pads / Smooth Gauze (w / alcohol.)
- M** Dry Smooth Gauze.
- N** Hydrochloric Acid/Chlorhexidine.

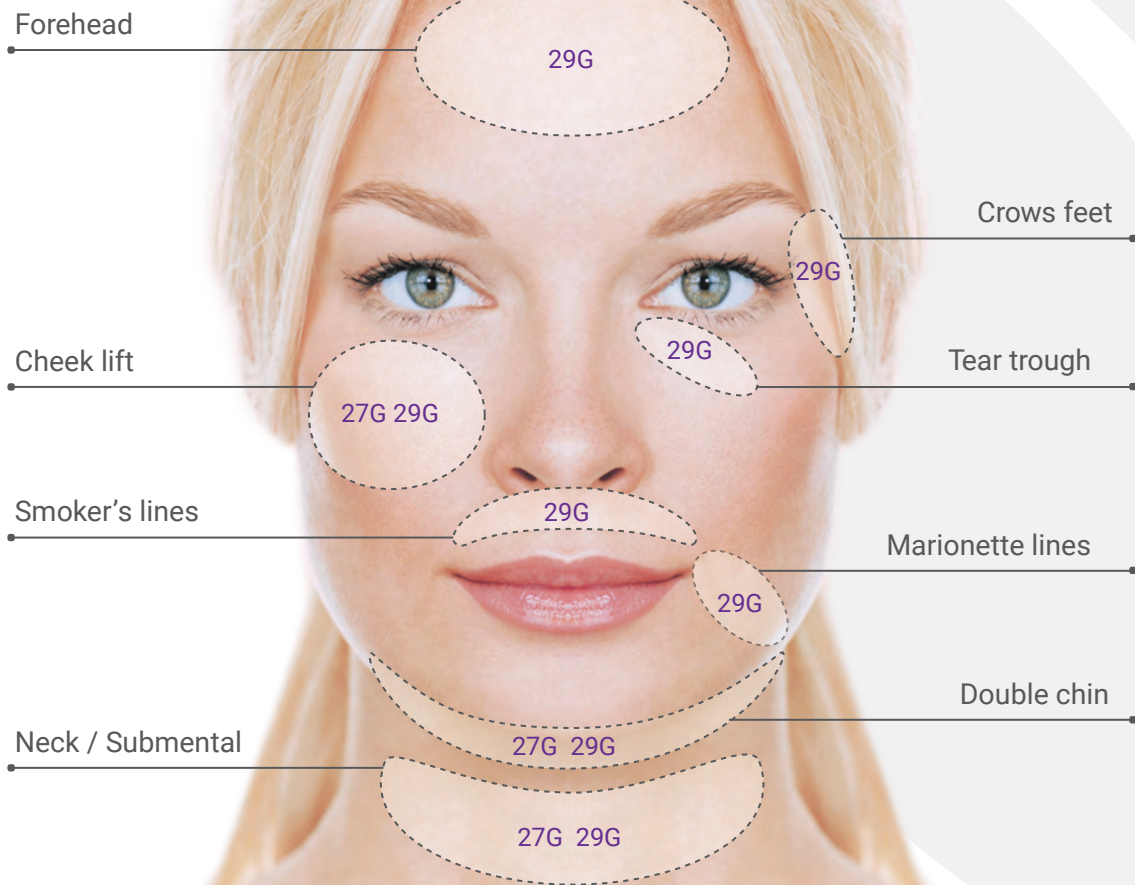


UNOBSERVED INSTRUMENTS

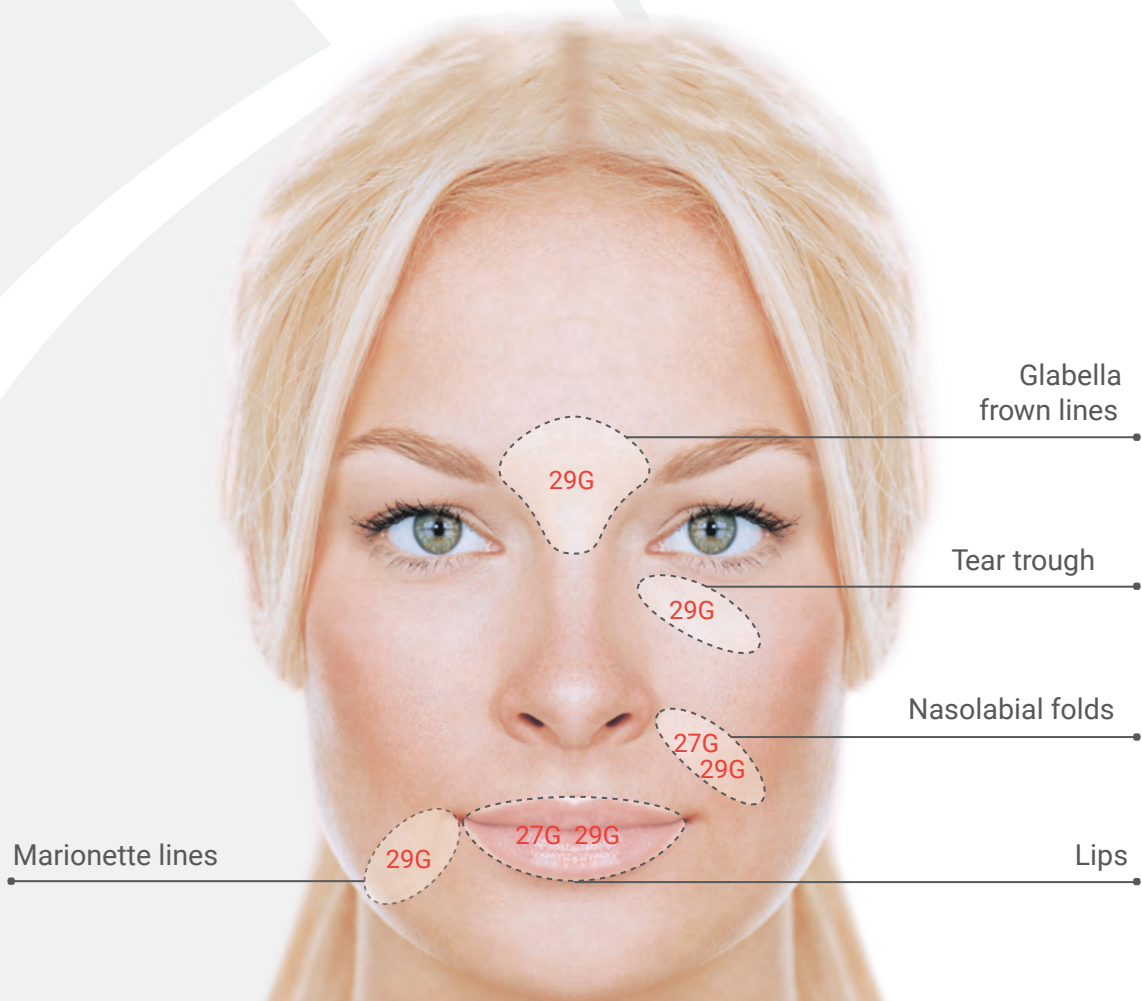
-  Ice Packs.
-  Rubbing Alcohol.
-  Sharps Disposable Box.
-  Topical Numbing Cream.
-  Emesis Basin.

THREAD PLACEMENT INDICATOR I: SMOOTH

SMOOTH



THREAD PLACEMENT INDICATOR II: TWIST



Glabella
frown lines

29G

Tear trough

29G

Nasolabial folds

27G

29G

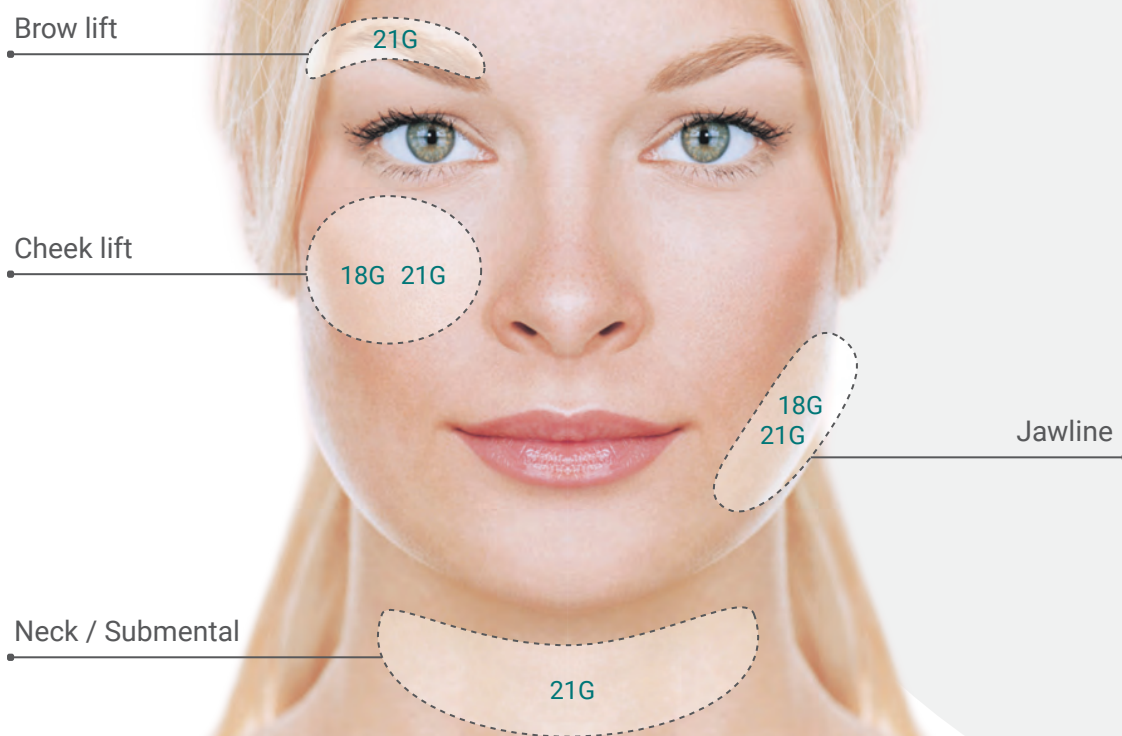
Marionette lines

29G

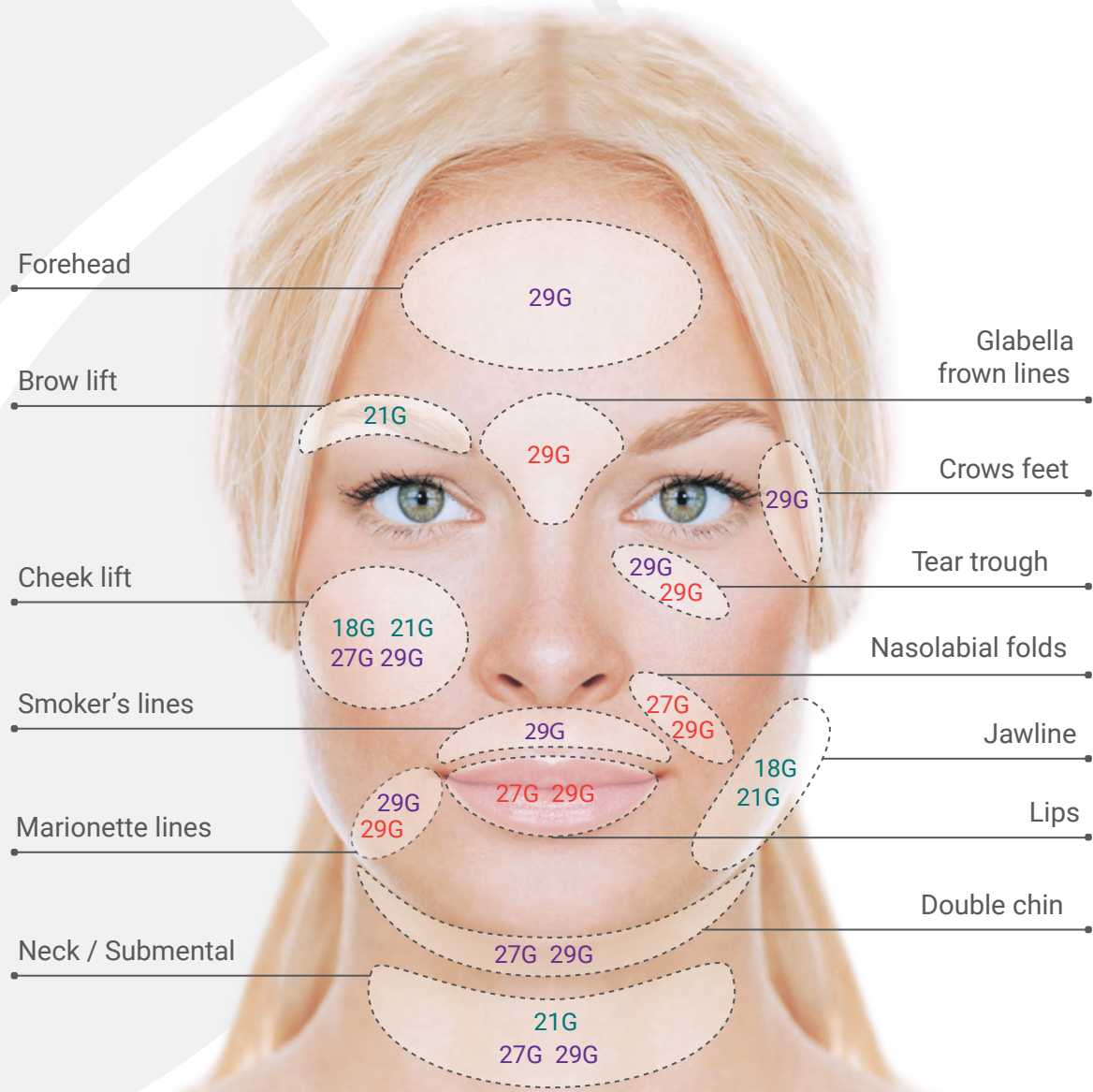
27G 29G

Lips

THREAD PLACEMENT INDICATOR III: BARB



THREAD PLACEMENT INDICATOR IV: SMOOTH, TWIST & BARB

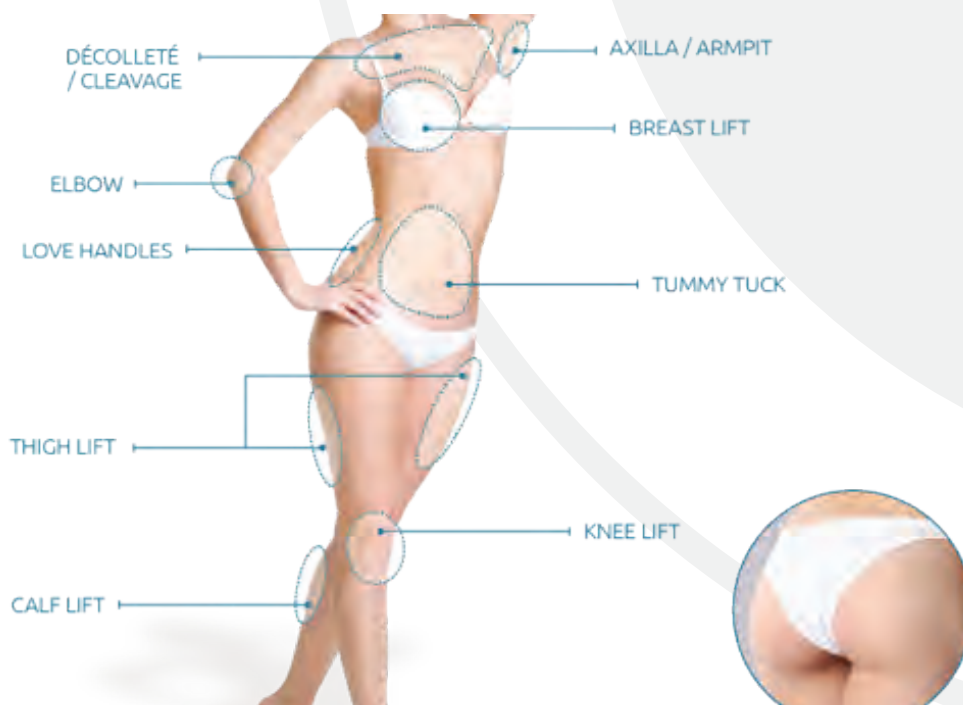


THREAD PLACEMENT INDICATOR V: EXAMPLE OF A MEGASESSION

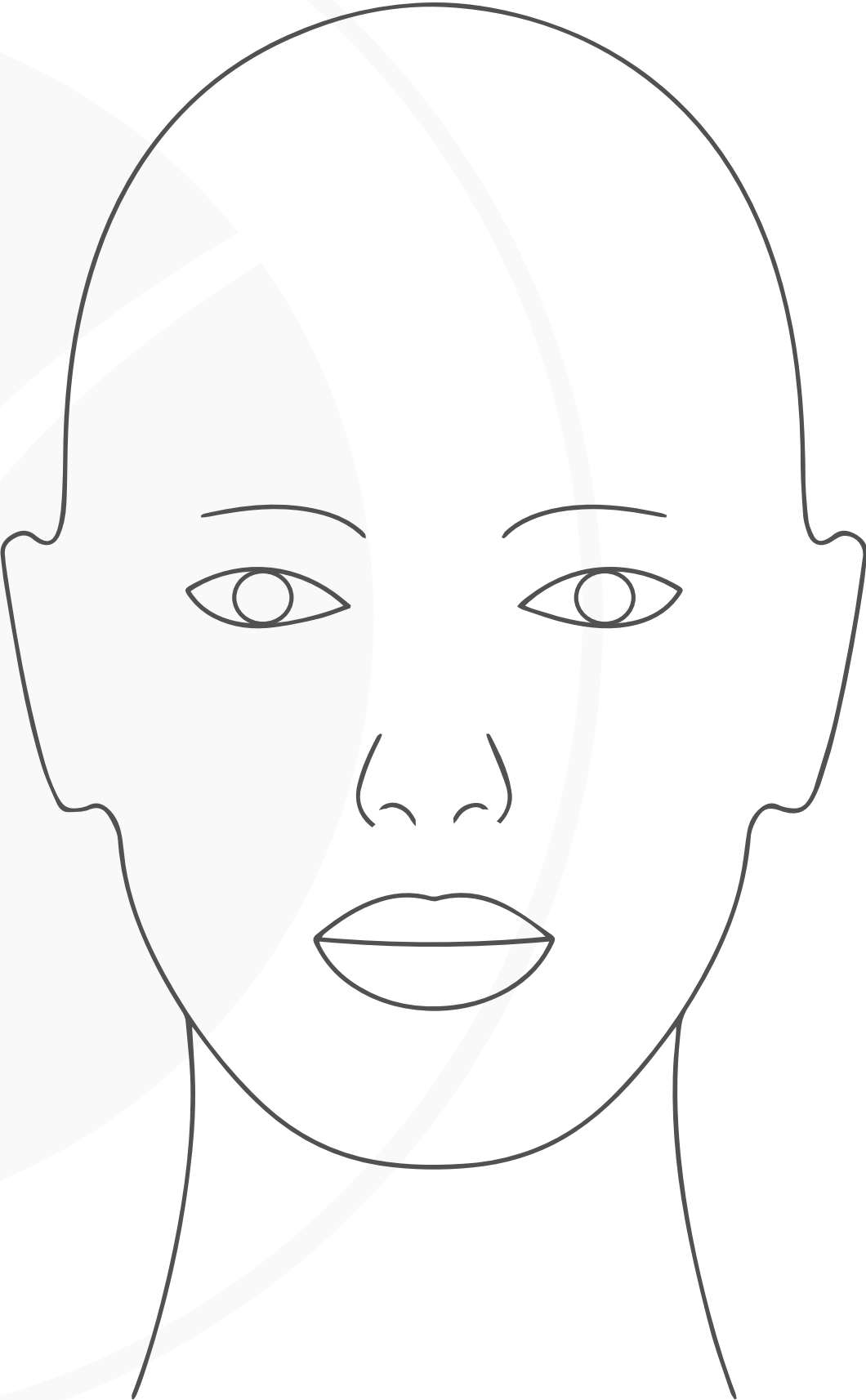


a) b)
Fig.3 118 threads are used.

BODY PART INDICATORS



FACIAL MAPPING:
FRONTAL VIEW



FACIAL MAPPING: PROFILE VIEW



NOTES

The page features a decorative graphic on the left side consisting of several overlapping, semi-transparent circles in shades of light blue and white. Horizontal blue lines are drawn across the page, creating a ruled area for notes. The word 'NOTES' is printed in a bold, blue, sans-serif font at the top left of the page.





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