

The “R.A.R.E.” Technique (*Reverse and Repositioning Effect*): The Renaissance of the Aging Face and Neck

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Abstract. Considering the fixed points of the face (Fig. 1), and in light of the fact that gravity is one of the main factors involved in aging, a new alternative concept in cosmetic surgery is discussed in this paper. In our approach, rejuvenation of the face and neck involves two completely *separate* procedures. The whole face must be treated “*homothetically*”, with an upward (*vertical*) and deep (*subperiosteal*) approach, to preserve facial proportions and distances, thus preserving the original facial identity. The *facial* portion of our rejuvenation surgery becomes a single “*en bloc*” and “*closed*” procedure, correcting the sagging tissue in the lateral sector, *between* the fixed zones which must be preserved. *The Malaris portion of the Orbicularis Oculi Muscle, (through its strong connections with the skin and the malar fat) has become the “key tool” of the rejuvenation of the whole face.* Then, *neck* surgery becomes a completely *distinct* procedure, and is to be performed in an *oblique/horizontal* direction. We now seek to preserve the very firmly attached neck zones, which are the attachment of the posterior border of the fibrous platysma onto the S.C.M. (Sterno-Cleido-Mastoidien muscle). This will permit a more conservative and less aggressive neck surgery, without any sub-platysmal dissection. Over 200 RARE

procedures have been performed during almost four years. Improvement in terms of facial rejuvenation is dramatic and the technique is quite safe and predictable. The only possible difficulty involves the patient’s temporary initial concern about early postoperative appearance.

Key words: Face-Lifting—Subperiosteal—Homothetia**
—Fixed points of the face—The three vertical Sectors of the face—Transcutaneous facial suspension—Time Sector 2—Identity Rectangle (IR)—BOOM: (Bi Orbicularis Oculi Malaris) Suspension

Introduction

The “fixed areas of the face” have been well studied [1]. The stronger attachments, as evidenced during extended dissection of the face, are the zygomatico-masseteric and the mandibular ligaments, the so-called “Furnas ligaments” [1], (Fig. 1). Therefore, the logical question becomes: *Are we allowed to destroy those natural fixations during surgery, and, if we do so, is the sliding process instead possibly increased later on?* This could account for the short-lasting results occasionally observed with some classical facelift procedures.

If we agree that gravity is one of the main factors responsible for tissue drooping of the face during the aging process, and that some retaining zones are potentially dedicated to inhibit this inevitable process, a *new surgical concept* becomes available: The face must now be looked at as consisting of three separate *vertical zones*, or “*Sectors*” (Fig. 4A & B). In our concept, only one sector of the face is “*moving*”, and the other two are “*fixed*”. Thus, maybe we should dedicate our attention and surgical efforts to

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**Homothetia (adj: homothetic): From “*homos*”: same; and “*thesis*”: position. A geometric term which means conservation of the relations and distances of different points of a figure, after its displacement (syn: to “act in concert” or in harmony). *Homothetia* preserves the identity of components during movement, without deformation or change (Figs. 2A, B, 3A, B).

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Fig. 1. Main fixed zones of the face and the neck, (per Furnas, 1989). 1: fixed concha of the ear. 2: auriculoplatysmal ligament. 3: fixed adhesences between the posterior border of the platysma and the S.C.M. muscle (per T.Besins). 4: mandibular ligament. 5: cutaneo-platysmal anterior ligament. 6: zygomatic ligaments.

focus more specifically on the anatomical movements of the age-related segment, and to attempt an actual *reversal* effect.

The challenge of this technique is to move all the face tissues (of only this sector) “en bloc”, back upwards, in a “*homothetic*” way, by repositioning of the *volumes* where they were before. An interesting comparison could be that of the sagging of the aging breast, which we correct by a surgical “reversal” concept to achieve rejuvenation.

Following the same concept, the aging process of the neck is completely different, and must be treated in the same etiologic manner: The posterior oblique sliding (due largely to the shrinking and bending of the cervical column) must be repaired by a *posterior oblique* repositioning vector, in a total divergence with the vertical facial one. As a result, the area anterior to the ear should not necessarily require surgery, other than as a minimal dissection for harmonious repartition of the excess tissues, as in a simple “dog ear” treatment.

Conceptual and Anatomical Considerations

A new aesthetic unit: The “Time Sector 2”. In considering the aging process, the face can be divided into three *vertical* sectors, and the previous concept of three horizontal parts of the face (upper, mid and lower) should be abandoned (Fig. 4).

- *Sector-1* is the center of the face (*Pro-Face of the embryology*): nose, middle part of the lip, chin, middle part of the forehead, which are fixed and

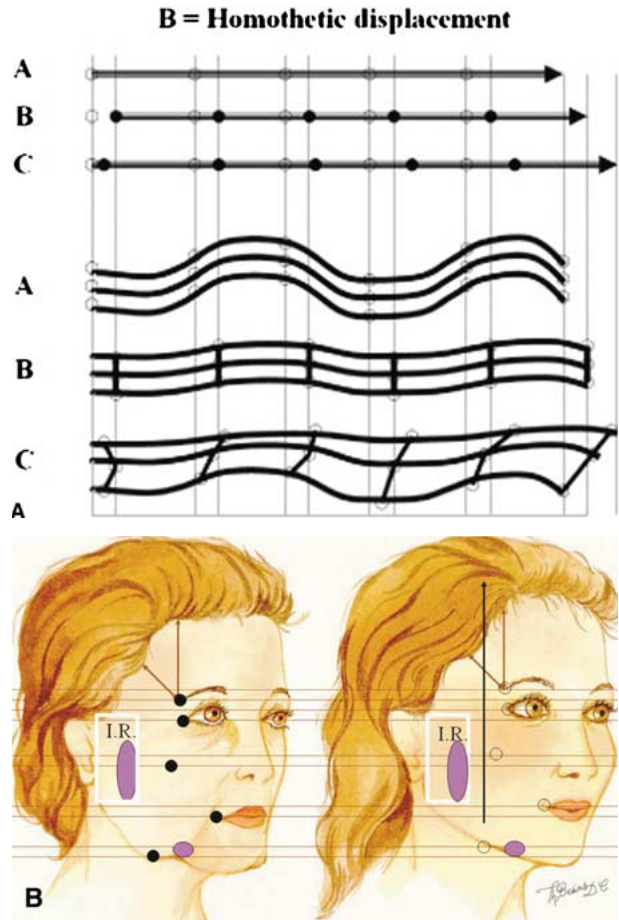


Fig. 2. A: Homothetia displacement theories: A) Initial baseline and “three layers model”. B) Harmonious and homothetic displacement (the relationships between the different points are preserved). C) Disharmonious displacement as encountered in superficial techniques, (stretching) or multilayer and multidirectional deep techniques. **B:** Simulation of a homothetic displacement of five identity points, shown at left. The forced figure, on right, could be the same, but rejuvenated about 20 to 30 years. Homothetia yields conservation of the identity. A few millimeters of elevation, in a “homothetic” movement, can offer an almost “generational” effect in term of facial rejuvenation.

maintained by bony eminences and short strong muscles.

- *Sector-2, or “Time Sliding Sector” (Meso-Face)* is the muscular and adipose part of the face, from the temporal area (including the tail of the eyebrow), down to the jowl. It represents the “sliding face”, which is involved in the drooping of facial aging, because it is free from almost any retaining structures. The mobile facial tissues droop vertically, and only within the “moving” zone of “Sector-2”.
- *Sector-3 (Meta-Face)* is the fibrous embryologic sector, with deep entanglement of all the layers

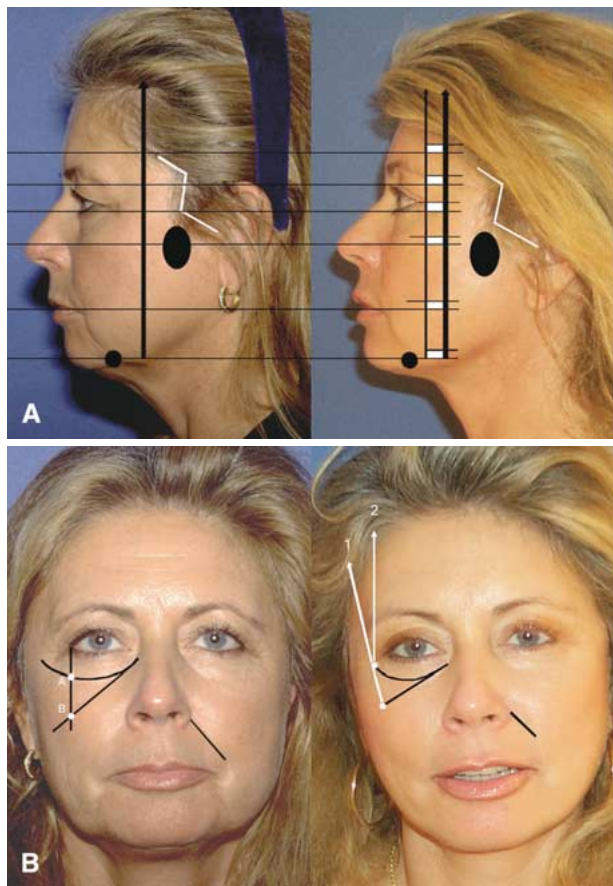


Fig. 3. A: Clinical application of RARE Technique, on a 55 year old patient at 18 months post op: Profile reproduction of the deep “en bloc” upwards homothetic repositioning. The black spots represent the original “fixed” zones. **B:** Same patient, with front view showing the rejuvenation effect of the homothetic elevation, without any modification of the hairline, and without any “face-lift look”.

of the face: Furnas’ ligaments, and the fibrous part of the SMAS firmly adherent from the pre-auricular area, down to its crossing with the SCM. This sector is more physiologically “fixed”, and should be substantially preserved. As with some other authors [2], but with a different approach, we advocate that only deep *subperiosteal* detachment of the soft tissues of the face, and upward repositioning, allows an efficient, natural (anti-gravity), harmonious (homothetic) and probably longer-lasting result. We want to avoid any disconnection and/or distortion between the different layers, and we accomplish this by repositioning them through two separate actions: The first one is a *re-establishment* of the relationship of those layers by a transfixion “*intra-layer scarring*” procedure after manual repositioning; and then, the second action is a *deep en bloc* re-mounting of the

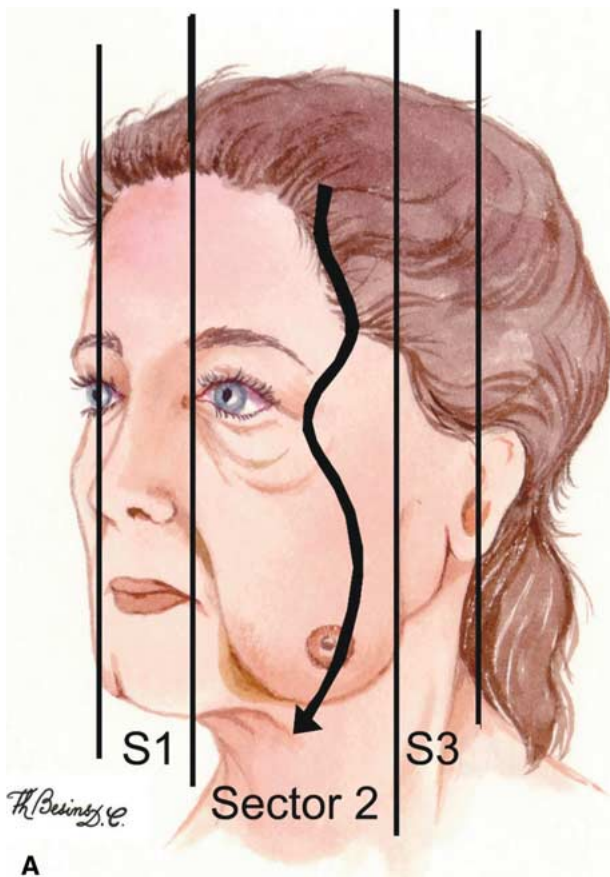


Fig. 4. A: Drooping of the volumes of the Sector-2 (Meso-face), compared to the superimposition of drooping of the aging breast. In this simulation, the inner part of the inframammary fold of a ptotic breast represents the nasolabial fold (wherein treatment is similarly accomplished by raising the mass in an upwards direction). **B:** The three “traditional” horizontal delineations of the face should be turned to three *vertical* sectors. Time related drooping involves only Sector-2, which is the only one needing to be repositioned.

restructured cheek mass. As a consequence, *three* different actions have thus been performed: Repositioning, Imbrication and Elevation.

The main surgical implications of our anatomical studies of the premaral area are: a) The safer ap-

proaches to prevent nerve injury are either the external orbital or the vestibular route; *b)* The main lymphatic drainage of the lower lid goes up vertically into the orbit, deep into the muscle and over the periosteum [3], where two to four main pedicles are usually visible during anatomical dissections; *c)* The motor nerves of the lower Orbicularis Oculi Musculus run obliquely and vertically upward, deep into that muscle [4].

Based upon the three considerations above, we must reach the periosteum with other than a subciliary approach, which otherwise would have transected the muscle, the lymphatics and the motor nerves of the lower eyelid. As a result, we now solve many common complications such as persistent lymphoedema, lagophthalmos (due to hypotonia), and deep tissue retractions (involved in ectropion formation) [8]. Concurring with the work of Mendelson [3], we advocate that firm structures are constantly present. Within our technique, these structures insure effective grasping, elevation and suspension of the cheek volumes. The *seven* key structures are:

The very wide Orbicularis Oculi, firmly attached to the skin, becomes a very effective skin tensor and interlayer sliding repositioning tool; but only if it has been widely liberated by a premalar subperiosteal dissection. This is the only way to be able to efficiently displace the malar portion of the Orbicularis Oculi, which spreads downward very low to the upper part of the nostril, reinforced by the Levator Malaris [5], (Fig. 5);

The prezygomatic membrane separating the S.O.O.F from the prezygomatic fat;

The O.R.L., which limits the palpebro-malar hollow and the visible tear trough;

The Periosteum;

The Levator Labii of upper lip and the Zygomatic Minor;

The S.O.O.F.;

The premalar fat, the sliding of which accentuates the naso-labial folds.

Methodology

Facial surgery (Fig. 12A) with the RARE Technique involves a *non-endoscopic deep and “subperiosteal” face dissection* with the following multi stage fixations to the temporal area: Cheek, Orbicularis, and then Temporal tissues. No “typical” lower eyelid dissection is performed, but only a lower eyelid *skin* resection, at the end of the surgery.

Then the distinctly separate *Neck surgery* (Fig. 12B) is performed, with a *limited* pre-auricular undermining (to preserve the fixed areas), but an extended low neck dissection, preserving as much as possible of the attachment to the S.C.M. muscle. Plication of the platysma is performed on its muscular part, to prevent detachment and dissection of

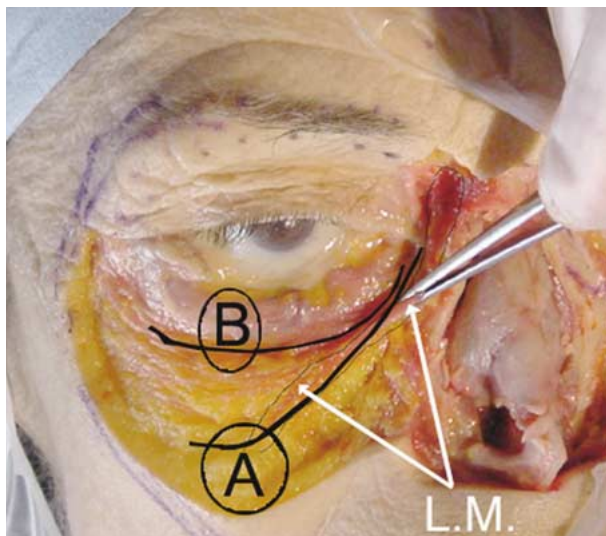


Fig. 5. Dissection of the inferior Orbicularis Oculi area which shows: 1) the huge inferior spreading of the Orbicularis Oculi Malaris, nearly reaching the level of the alar groove. 2) The Levator Malaris (“LM”) which can be considered as a thick reinforcement of the inferior border of the Orbicularis Oculi Malaris, crossing *anteriorly* the medial canthus. The two key “grasping” points A and B have been drawn onto the photo.

the fibrous posterior part (which is a deep fixed area), on the crossing zone of the mandibular angle and the S.C.M. Much of the SMAS was *inherently* elevated and anchored as part of the “RARE (Facial) Technique”, and liposuction of the neck is performed when necessary, and in a routine manner.

Lipofilling has been added in about 50% of the cases, at the end of surgery, when indicated for the temporal, internal and medial premalar, or any other areas. It is easy to do and very effective, especially because this subperiosteal and non dissociative technique avoids any undermining between the face tissue layers.

Surgical Procedure

The key to the “RARE” method of facial rejuvenation is the release and repositioning of the cheek mass (“en bloc”) which had held down the lower eyelid, the lateral canthus and the tail of the eyebrow; all in an homothetic way. These elements above are thus repositioned, without any other specific surgery. Skin and hair resection are avoided, and the relationships between the different facial identity structures are preserved. Thus this *homothetic lift of Sector 2 (Meso-face lift)* of the face preserves original youthful proportion and identity, providing a natural look, which is highly appreciated by patients (after their slightly “different” post-op period). Also it should once again be noted that the entire procedure is routinely done without the endoscope.

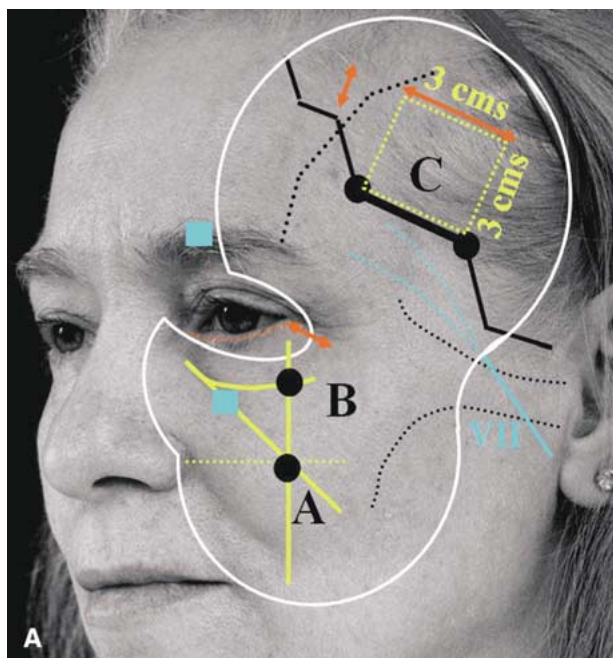


Fig. 6. A: Preoperative markings (see also Fig. 5). Point A denotes the intersection of the extended tear trough line with the vertical projection of the lateral canthus. Point B denotes the intersection of the infrapalpebral sulcus with the vertical projection line of the lateral canthus. Then the bold black line shows the three steps of a normal hair line. Red lines designate the incision markings. Dotted black lines show the temporal crest and zygoma. Blue designates the nerves pedicles. The white extended line shows the limits of the deep undermining. **B:** Appreciation of the potential post operative result, by movement of the points during forced smile; notice the homothetic relationship of the points A and B.

Pre-operative markings are done in a standing position:

The key point “A” is generally located a bit below the crossing point of the vertical outer canthus line, the extension tear trough line on the jowl, and a horizontal line crossing the inferior border of the nostril (Fig. 6A). One must always keep in mind that this

point “A” is considerably higher in the supine position, and thus not so far from the desired location. This entire procedure has been completed via a limited lateral trans-orbicularis approach. This essentially “closed surgical process” also generally precludes any persistent bleeding.

The proper marking spot of point “A” is easy to locate and verify, using an extreme forced smile. This specific maneuver gives an idea of the rejuvenation look after the predicted ascension of the jowl, and provides a good preoperative evaluation of the amount of skin to be removed on the lower eyelid, at the end of the overall face surgery.

The key point “B” is located at the *crossing* point of a vertical line coming from the external canthus, and the line of the palpebro-malar hollow. This point will determine the limit of the mandatory skin eyelid dissection, now reaching the thick and strong O.O.M. muscle.

Other useful markings are also done (Fig. 6A): Temporal Crest, V-Nerve pedicles, incision lines, and VII-Nerve position, at the junction of the middle and posterior third of the zygomatic arch.

The step-by-step procedure is as follows:

STEP 1: Deep dissection of the cheek: This is carried out through an external 10 mm trans-orbicularis incision, at the same place as a routine lower eyelid incision; but only in the lateral third (and very obliquely downward), as the final scar will be lifted into a horizontal position. A deep transecting incision is made, down to the external periorbital periosteum. Two different size Obwegeser elevators are then used: a narrow 4 mm wide to start the subperiosteal malar dissection downwards and medially on the infra-orbital rim, (arcus marginalis) reaching the nasal bone above the internal canthus. This maneuver is essential in order to obtain a significant yet “light” elevation of the internal part of the cheek and the naso-palpebral hollow. Then a larger 8 mm wide elevator achieves the dissection down to the vestibule, pyriform orifice, latero-nasal area and back to the anterior part of the zygoma.

Important points must be mentioned at this stage: Elevators must be very sharp to be sure to stay under the periosteum. “Smooth” or non-cutting elevators are very dangerous, as they can induce a “false” sensation to be in a correct plane. A careful dissection at the beginning can prevent injuries to the temporo-malar pedicle(s), when existing. Frequently, three, four or five very thin mixed pedicles exit from the malar bone, and cannot be seen (and preserved). The thin elevator is useful to prevent injury of the infra-orbital nerve during the orbital rim dissection. A finger, placed between the globe and the inferior orbital rim, allows a perfect control of the elevator progression up to the nasal bone. The distance between the nerve and the orbital rim is always approximately 8 mm.

The lateral Canthus must not be detached, if we do not wish to change the patient's "look". Thus the original "youthful" location will be naturally obtained, by the "upward lifting" which discharges the canthus area from the weight of the cheek. The Orbicularis septum is routinely preserved; yet (though not recommended) we retain the option to open it, for spreading or removing the fat bags.

The Periosteum must be entirely detached, and this is most easily done medially, since here it is very thin; and then it has to be perfectly elevated and completely transected in the whole vestibular area. The elevator must be seen, in a transparent way, in the mouth, all along the mucosa of the vestibule of the entire superior maxilla bone. Slight elevation movements, such as performed for supra-orbital nerve dissection with endoscopic control, must be used to dissect the infra-orbital nerve carefully. Periosteal detachment means detachment of the origin of the medial musculature of the mouth.

The preservation of the fixed prezygomatic area means that only Zygomatic Minor and Levator muscle of the upper lip are detached from their bony insertion and will be tightened up with suspension. If limited medial zygomatic dissection is safe for the frontal branch of the facial nerve, the mid orbital branch is very close. It runs deep under the Zygomatic muscles, and over the Levator muscle of the upper lip ending in the medial part of the Orbicularis muscle. The main area exposed to nerve injury involves the lateral part of the malar bone dissection.

STEP 2: Cheek Suspension: A multi-step *Transcutaneous* procedure (Fig. 7A-G). The different steps are drawn on the "series" in Figure 7. Two important points must be underlined for succeeding in this maneuver: 1) To lift manually the malar fat pad up above the orbicularis muscle, before transecting the cheek; as this allows the repositioning of the sliding fat into an appropriate position before imbrication and elevation. 2) To make a very wide grasping of the cheek structures, by progressing parallel to yet under the dermis, for a distance of at least 1,5 cms. (see Fig. 7G and 8).

STEP 3: Orbicularis (Malaris) Suspension (see also Fig. 8 and Fig. 19A, B): In this step, an extended subcutaneous dissection of the entire lateral third of the lower eyelid is performed, down to the palpebromalar hollow, avoiding completing the subciliary incision at this time. The *complementary* medial subcutaneous palpebral dissection (depending on the amount of skin to be removed) should only be performed at the end of the procedure, to avoid unnecessary undermining, and to limit complications and bruising.

In front of the inferior extension of the skin dissection, corresponding to the level of the junction of the eyelid with the cheek, the *Orbicularis Oculi Malaris muscle (O.O.M.) and periosteum* are firmly grasped with a 5 mm bite, to allow vertical and solid transposition of the premalar soft tissues, via the

Orbicularis Oculi. Thus we create a very strong adherence, between the connections of the uppermost part of the muscle flap and the external orbital bone (with the periosteum removed). This is one of the keys of the long lasting adherence and/or improvement of the rejuvenation, as well as of the skin appearance around the orbit. Concurring with Hamra [11], we advocate the continuity/imbrications of the Orbicularis Oculi with the cheek fat; which together (in continuity) constitute a key anatomic and surgical layer. The concept of the improvement of the skin tension comes as a result of the skin-muscle and/or periosteal adhesion, as has been advocated by others [6] as well.

We use either use 2/0 Gore-Tex® (W.L. Gore, Flagstaff, AZ), or Vicryl® (Ethicon, Somerville, NJ) needled sutures (see Fig. 9). The two ends of the symmetrical sutures are grasped with separate forceps, and pulling is exerted to check symmetry and effectiveness in absorbing the excess amount of tissue caused by the ascension of the cheek mass. This maneuver is essential before then passing the sutures through the temporal incisions, and then their fixation on the skull and/or the temporal aponeurosis (depending on the most effective vertical pathway). Thus, Step-3 must absorb the excess wave created by Step-2. Steps 2 and 3 together now represent the "B.O.O.M. Suspension" (Bi Orbicularis Oculi Malaris) technique, which is one of the main steps of the "RARE" Procedure.

STEP 4: Temporal or temporo-frontal elevation and fixation (the mandatory final step for treatment of excess tissue following "BOOM" action); Temporo-frontal dissection is performed in the same way for every case. The degree of final adjustments, such as extent of elevation of the eyebrow or upper eyelid skin resection, is dependent on the patient's (and the surgeon's) wishes, and examination. A 35 mm incision is made 3 or 4 cms behind the hairline (Fig. 6A) and parallel to it. Ideally, this incision line must be drawn perpendicular to line AB, (see also Fig. 10A, B) which means nearly horizontal. Its medial end must be 1 cm lateral to the temporal crest, to be certain to find a strong temporal aponeurosis support. Obviously, a very lateral position of the temporal crest may modify the vector direction, and modify the vertical translation of the tissues. If a temporal aponeurosis is not available for a good vertical elevation, we then proceed to skull bone fixations.

If bone fixation becomes necessary to maintain Orbicularis Oculi (and cheek also) elevation, holes in frontal bone become required. A rotating 2 mm burr is used to create two oblique 45° communicating tunnels through the external cortical bone. This tunnel can easily support, if necessary, the two orbicular and/or malar fixation sutures, (and also the eyebrow elevation fixation, if it has been planned for). At the present time, we must note that the recently available "ENDOTINE" fixation devices, (by

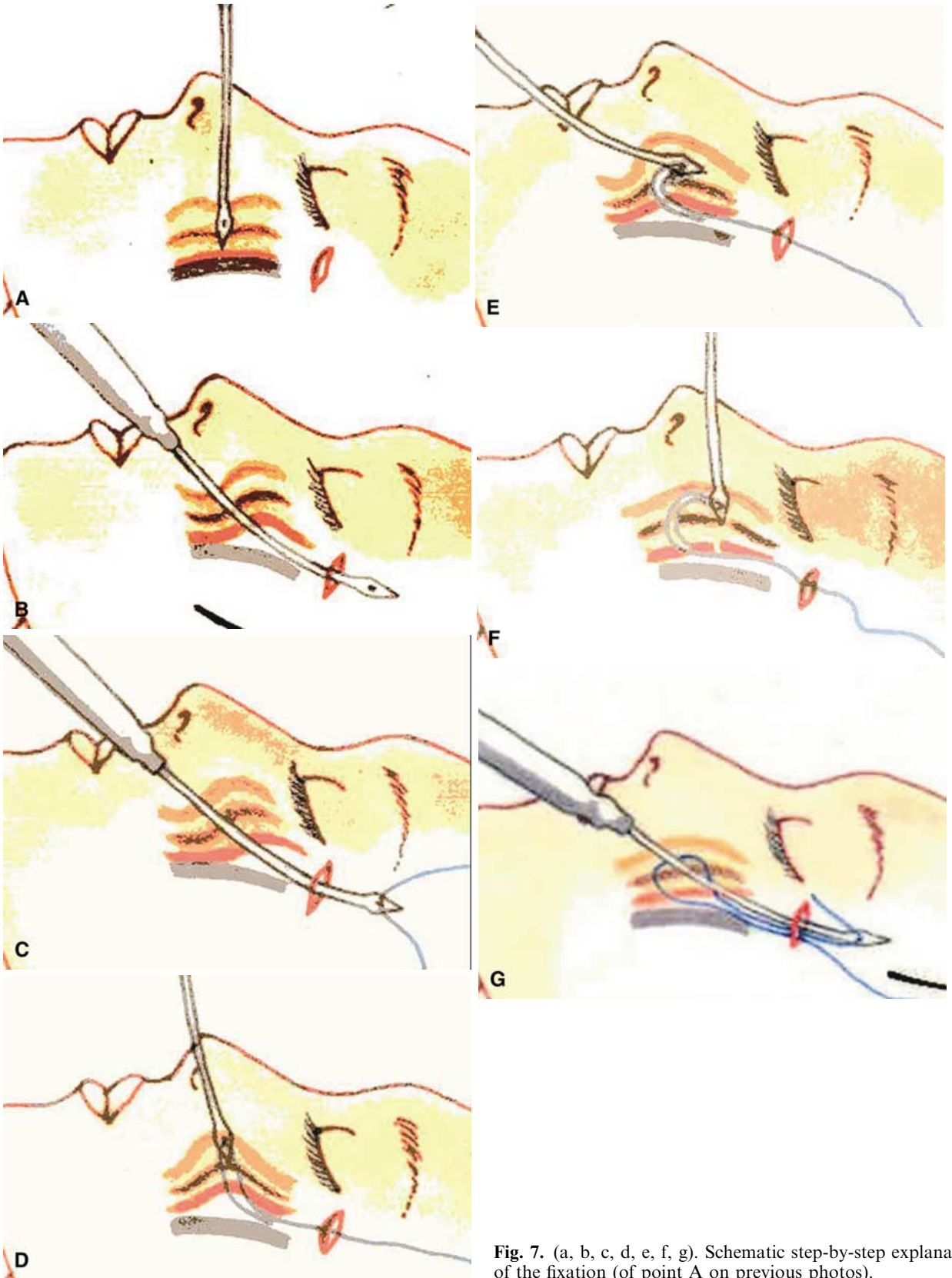


Fig. 7. (a, b, c, d, e, f, g). Schematic step-by-step explanation of the fixation (of point A on previous photos).

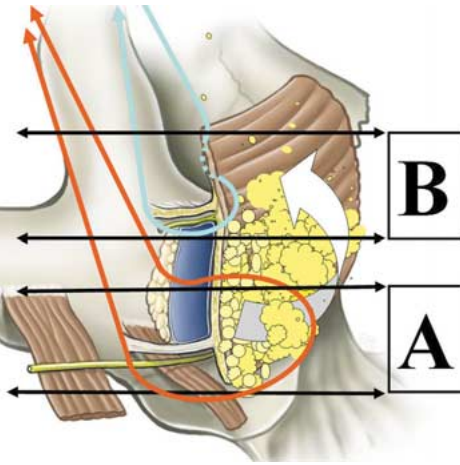


Fig. 8. Representation of the grasped elements in each point A and B. The white arrow simulates the manual repositioning of the volumes before transfixion.

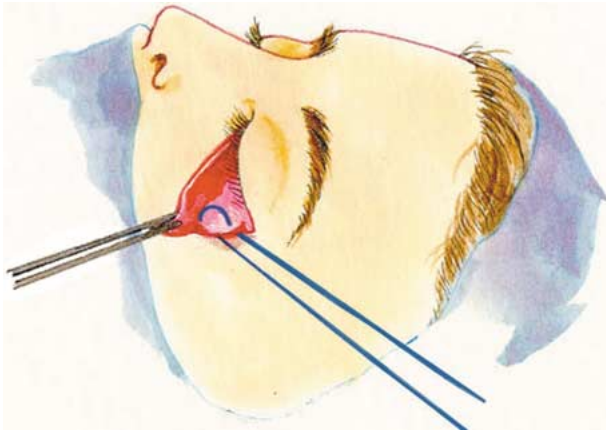


Fig. 9. Details of grasping the premaralar portion of the Orbicularis Oculi Malaris and periosteum (relative to points B & B' on previous photos).

COAPT®), have highly facilitated the bony fixation procedure, and improved our results for the eyebrow elevation, through the use of this multipoint(s) re-sorbable fixation system.

The temporo-frontal dissection is performed without endoscopic control, because we have gained experience from numerous "open" subperiosteal or "mask-lift" procedures. The dissection must be very extensive medially and posteriorly. Medially we must obtain a complete release of the temporal crest and the orbital rim. The periosteum must be incised and completely separated to easily reach the deep aspect of the Orbicularis Oculi. Preserving the pre-op located supraorbital nerve is easy by a smooth elevation, as during an endoscopic approach. Posteriorly, somewhat extensive undermining is necessary to absorb the excess of soft tissues coming from the elevation of the face, because skin and hair excision are completely avoided in this technique.

The subsequent "bump-like" excess in the temporal region (Fig. 11B) will disappear within a few weeks. If it is not necessary to modify the direction of the palpebral fissure, the strong posterior insertion of outer canthus must not be detached. Alternatively and if required, a complete canthopexy may be performed, as described in the original Tessier's Mask Lift technique [7].

In our RARE procedure, the purpose is to attain the complete repositioning of the soft tissues, back to the original youthful position, without any canthal procedure. Periosteal elevation of the half posterior lateral aspect of the zygoma is not done, to thus preserve this very fixed area of the face. And fortunately, this partial dissection prevents facial nerve injury to the frontal nerve branch.

The overall temporal incision concept allows the temporal fixation of the tissues coming from elevation of the cheek, in the homothetic manner previously described. Three 2/0 Vicryl sutures will fix the elevated galea to the temporal aponeurosis. To enhance a longer lasting adherence process, we always remove some patches of the aponeurosis. As a result, the deep ascension of the tissues is effective without the appearance of any modification of the relationships and proportional distances within the face. This phenomenon explains why the hairline seems to have not been elevated at all.

In our RARE procedure, we have no need to remove any excess skin in the temporo-frontal area. We close the temporal incision with 3 or 4 staples, which are removed on the postoperative day 4, at the same time as we remove the lower eyelids sutures. Note that the any excess tissue "wave" created during Step-3 has now been absorbed within Step-4.

STEP 5: The two final adjustments: eyebrow positioning and lower eyelid skin excision.

Eyebrow positioning: The entire lateral two-thirds of the eyebrows have been released during dissection in Step-3. It is easy to effect the changes we want to achieve, by employing the standard upper fixations. In many cases, no changes were pre-planned; and the eyebrow release alone (plus the weight release of the cheek mass) produces a light yet natural and "homothetic" elevation.

Lower eyelid skin excision becomes mandatory within the RARE technique: we usually remove an impressive skin excess, which generally corresponds to the previous stretching of the cheek, related to the tissues sliding as part of facial aging process. In unique opposition to the more conservative degree of resection (typically advocated to prevent complications [8]), we are convinced that we must completely remove this skin excess, caused by our elevation of the cheek. We have three specific reasons: *a)* the strong secondary adherence between Orbicularis Oculi and the underlying lateral orbital bone; *b)* safety given by tarsus hyper elevation; and *c)* integrity of the innervation of the Orbicularis Oculi which retains its tone.

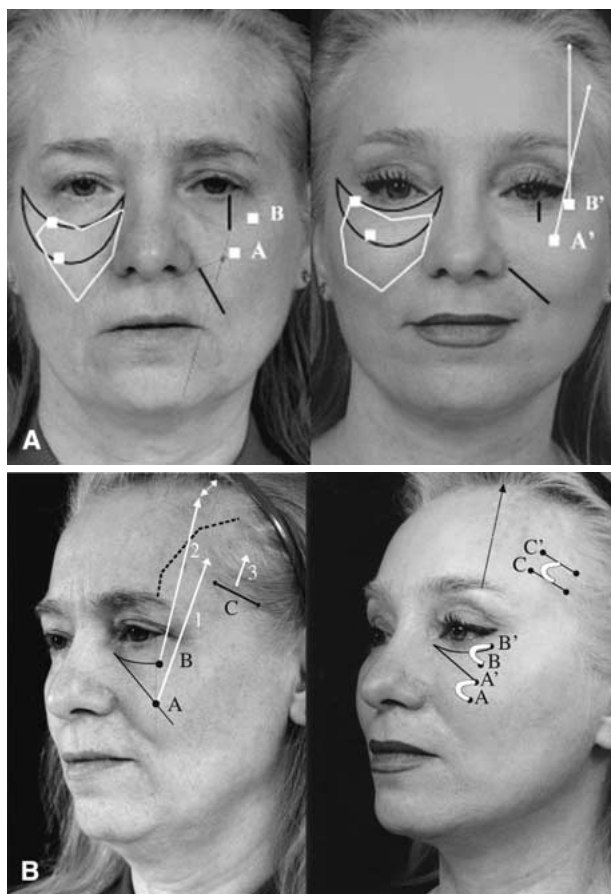


Fig. 10. A: 65 year old patient, 18 months after RARE Technique. Repositioning of the cheek, improvement of the contours and luminosity of the face with lipofilling not required. Note the improvement within the polygonal figure drawn around 6 naevi (white shape), plus improved angle of the naso-labial groove. **B:** Same patient, explaining our points of movement and fixation of the “homothetic wave” in the RARE Technique.

The patient’s entire look is rejuvenated without aggressive eyelid surgery. We usually do not remove fat bags, and never transsect the Orbicularis Oculi in its pre-tarsal or subciliary area. The only surgical dissection necessary involves subcutaneous undermining, strictly limited to excess skin that must be removed at the end of Step-5. In doing this, we have preserved all the lymphatics, nerves, and blood pedicles of the fragile lower eyelid.

STEP 6: Neck surgery (Figs. 11A, 12B): The neck slides obliquely between the lateral fixed points of the face, and the medial border of S.C.M. Thus the *horizontal* (submental) segment of the neck is mainly related to the sagging of the *face*, and the *vertical* segment, to the oblique sliding of the *neck* itself. As we have just seen in Fig. 10, neck and facial surgeries are treatable as *two completely separate procedures*. Whereas the rejuvenation of the facial area (including a part of the sagging of the jowl area) was performed using the RARE technique (which elevated all the

soft tissues, including the S.M.A.S.), neck surgery now requires an oblique/posterior tissue repositioning.

Platysma surgery is then indicated if it provides satisfaction to the surgeon; but we are convinced that, here again, deep fixed areas should be preserved. Therefore, certain important concepts should be applied: The Platysma slides without any dissection, by grasping and pulling it at the level of the angle designed by the SCM muscle and the mandible. Once this fixation is done, two simple running sutures, vertically and horizontally, are performed to maintain this muscular repositioning. The *pre-auricular* skin undermining should not exceed a few centimeters, sufficient only to absorb the amount of excess skin resulting from the neck surgery; and thus to also preserve the *Identity Rectangle* (“IR” in Fig. 11B) of the zygomatico-masseteric fixed area [1]. By continuing our research concerning this area, we have recently even been able to *entirely* avoid any incision in front of the ear, where tissue excess conditions were favorable.

The posterior border of the platysma is fixed, and does not move at the level of the gonion; and thus undermining of the platysma must be as conservative as possible. A simple double continuous suture, running vertically *in front of* the posterior border, appears to be a more effective and conservative technique (Fig. 12B). Of course, any submentally accessed treatment of the platysma bands can still be treated if required or desired, as well as the submaxillary gland excision. The SMAS in Sector-3 is fixed and fibrous, whereas it is muscular and mobile in Sector-2. For these reasons, undermining of the *fibrous* SMAS is unnecessary, and only its *muscular* distension has to be treated.

Results

Over 200 such procedures have been performed. A total of 124 patients who have undergone the “RARE Technique” (116 females, and 8 males) were included in the study, because they underwent exactly the same procedure, and have been seriously followed up, each for a period well exceeding 6 months (Fig. 3, 13, 14, 15, 16, 17, 18, 19, 20). Half of the patients required an associated neck lift; which did not change the facial result, because of the separateness of the procedure, disassociated from the facial rejuvenation. The average age of our patients was 55, with the ages ranging from 38 to 88 years.

The most satisfying aspect of this technique is a dramatic facial rejuvenation, and preservation of the patient’s original youthful identity. This is very noticeable from both the surgeon’s and the patient’s perceptions. Of our 124 patients, we noted 112 good, very good or excellent results; and 12 poor results (8 from the patient’s point of view, and 4 from both patient and surgeon’s point of view). This is possibly

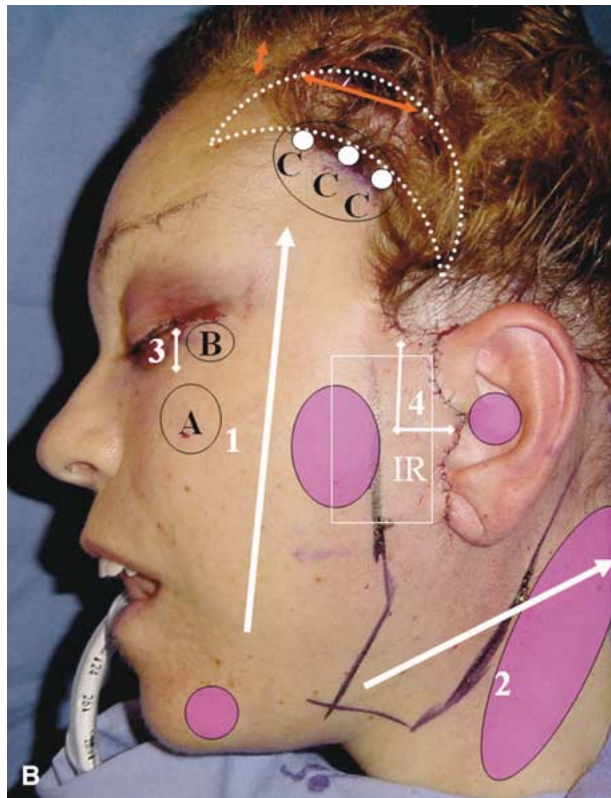
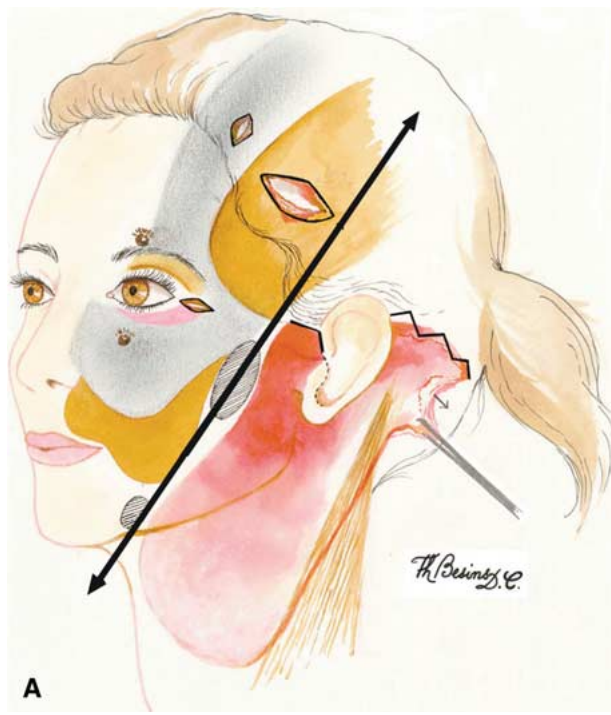


Fig. 11. A: Drawing showing incisions points for the complete rejuvenation of the face, and then separately the neck, preserving the fixed areas. **B:** The white Line 3 designates the amount of the *mandatory* skin incision and removal resulting from Surgery 1 (Arrow 1, facial “elevation procedure”). The suture line (referenced as Line 4) designates the line of *optional* excision, if Surgery 2 (neck procedure) delivers an amount of excess skin requiring removal. The “W” symbol represents the final wave of excess tissue (in the temporal area) *which is not removed*. The white rectangle is the Identity Rectangle (IR). The large violet oval in the neck area represents the site of very strong natural attachments between skin and SCM, which should be preserved as much as possible.

two important prerequisites. Generally, three weeks are necessary to recover a normal facial appearance, and six to eight weeks for the patient to be happy and to feel comfortable with the result. Please note that when (in younger patients) we perform a “face only” procedure (without the neck), the *entire* recovery takes place faster, occasionally in as little as three weeks (see case shown in Fig. 21).

Complications

This technique is applicable at any age, but results are best in middle-aged and patients of normal weight. The main *temporary* complication is the extent of edema (and resultant distortion of features) during the early postoperative period (average two to three weeks). In every other respect, the technique seems to be very safe, and the morbidity very low. Our experience of other complications is as follows:

Hematoma: *None.* Drains have never been used in this facelift surgery. Most of this surgery is closed, with little bleeding; and a good occlusive dressing seems to be very effective if duration of surgery is not too long.

Infection: *one case.* We have no explanation, except that it was a local orbital infection which diminished by itself with local and systemic treatments; and this is a very minor complication compared to major infections sometimes encountered with transvestibular approach.

V Injury: *None.* Good knowledge of anatomy, as well as experience gained from endoscopic subperiosteal dissection, prevents injuries to V in a closed surgery.

Ectropion: *None.* This normally would have been the major complication of this technique, but we have not observed *any* ectropion in our series. The possible explanations for the lack of ectropion issues might be: *Wait and it will occur?* Muscular and nerve supply integrity of the lower eyelid at the end of the procedure? Only the skin which will be removed is undermined (which means no scar retraction)? Dramatic new adherences between periosteal-orbicularis flap

accounted for by the patient’s inadequate preparation for interim results, as well as our initial hesitations during the earlier cases.

We are now convinced that an excellent understanding of the concept of the procedure, plus a thorough explanation of the post-op appearance, are

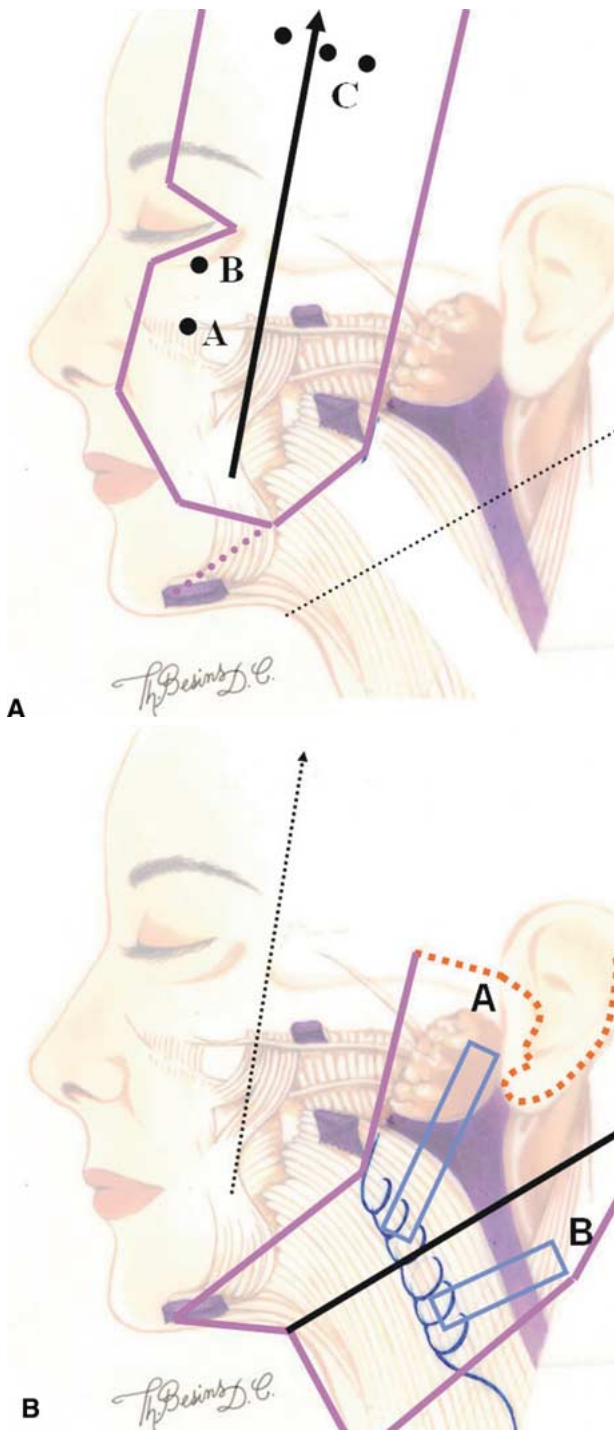


Fig. 12. A: *Face* portion of the surgery. **B:** *Neck* portion of the surgery. Notice the posterior vectors and preservation of the attached fibrous border of the platysma.

and external orbital bone? The very firm fixations of the cheek and the Orbicularis Oculi, due to the three stages and “en bloc” transecting stitches? Overcorrection of elevation of the lower eyelid, which provides a few millimeters of security? Efficiency and durability of the suspension of the cheek?



Fig. 13. A: (front view), **B:** (3/4 view, and profile). 56 year old patient. Result at 11 months after RARE Technique plus lipofilling.

Asymmetry: Transcutaneous cheek fixation, with very precise preoperative markings, largely prevents the risk of asymmetry. The next possible cause of asymmetry can be a difference in the degree of traction, which gradually becomes easy to determine and correct during the procedure. Under direct view control, placement of the Orbicularis Malaris suspension suture is easy to perform. In all of our cases, slight temporary asymmetry was a constant finding, but only due to asymmetrical edema of the temporo-orbital region. We must keep in mind that any *real* asymmetry could be corrected under local anesthesia in the early postoperative period, if necessary.

Dimples. Three different sorts of dimples may occur: During the procedure, a cutaneous dimple is due to an overly superficial suspension, taking the dermis. It must be avoided by a correct utilization of the enlargement mark of the passer, which enables saving 5 mm of superficial tissue over the stitch. Any dimple due to excessive traction is easily avoided with experience. We prefer to get maximum traction on the Orbicularis Oculi *before* fixing the jowl sus-



Fig. 14. **A:** (front view), and **B:** (3/4 view). 58 year old patient with heavy skin. 1 year result without any filling. Notice harmonious features on the 3/4 view.

pension at its optimal tension, and before a dimple becomes evident. During the follow up period, the four suspension points may create some temporary "edema dimples" during the first 2 to 3 weeks, and patients must be informed about this possibility. In any event, the problem can be resolved by removing any of the suspension suture(s), under local anesthesia, after two months. But in addition, one must try to avoid dimples which are already evident at the end of surgery, and correct them *immediately*, to avoid their aggravated appearance in the standing position.

VII nerve injuries. Fortunately, we have never encountered any serious or permanent injury to the frontal branch of VII. Three explanations can be suggested: no retractors, very sharp elevators perfectly scraping the temporal aponeurosis, and no subperiosteal dissection of the posterior half of the zygoma. Nevertheless we observed three minor temporary issues, possibly concerning the medial branch of VII (two temporary upper lip asymmetries, and one possible medial lagophthalmos); yet in such cases, recovery is complete after a few days, as has been confirmed by others [9]. The two problems could have the same explanation: The distension (during dissection) of the zygomatic branch of VII, under the



Fig. 15. **A:** (front view) and **B:** (3/4 view). 54 year old patient with very thin skin, 14 months after RARE Technique without lipofilling. Notice improvement of skin with Orbicularis Oculi Malaris muscle re-tensioning.

zygomatic minor muscle. As we never observed that kind of incident with the vestibular approach, it seems that the convexity of the malar bone makes the dissection from the top more difficult, because of the need for greater elevation of the tissues when accessed from above.

Touch-up. On one patient we had rare "e/P.T.F.E." intolerance, and two other patients experienced persistent dimples. We waited two months to proceed with atypical suture removal (under local anesthesia) through the original temporal incision. The Gore-Tex® remained well visible and swept very easily. Thus, the suspension stitches were able to be removed without any damage to the aesthetic result. This confirms for us that no difference exists for the result between absorbable or non absorbable suspension sutures. But in our experience, Gore-Tex seems to be the more favorable material, for certain reasons: *a)* **Adjustability** of the stitches because the knots sweep very easily during surgery, and for touch-up after a few weeks as well; *b)* **The white color** permits a very easy recognition, when necessary; *c)* **The "elasticity"** and **smooth** texture reduces cutting problems of the tissue suspensions, and facilitates patient facial movement after surgery; *d)* **The inflammatory process** around the suture creates stronger deep beneficial



Fig. 16. A: 50 year old male patient; RARE Technique with light superior eyelid surgery. Note improvement of the midface and the expression. **B:** Inherent correction of a poor result from a prior eyelid surgery, using only RARE Technique (versus additional eyelid surgery). Results at one year.

“scarring” as part of the transection of the layers during the en bloc fixation.

Summary of Complications

Temporal depression, when and if too deep of a dissection damages the aponeurosis. This happened during the first cases and was successfully treated by deep muscular lipofilling.

Semi-Permanent dimples (in some early cases) which are now easily avoided with experience, and/or treated by suspension removal.

Possibility of hypertrophic and persistent (3 months) redness, at the aspect of the lateral scar of the lower eyelid. The explanation could be the differences of thickness of the two edges of skin (after removing the excess portion). We have not yet found any solution for this problem, but only to inform our patients of this temporary redness possibility.



Fig. 17. A: Front view of a 52 year old patient, 2 years post op. **B:** Profile view of the same patient, showing the vertical and homothetic repositioning of the two naevi of the cheek, and of the external part of the palpebral malar groove.

Discussion

The “*RARE Technique*” concept seems to provide solutions to many questions we have encountered during twenty years of face lifting practice.

Is anatomical layer undermining useful or not? In our former typical facelift, the effects of the huge process of multiple separations almost always gave the illusion of good results for a few months. The unnatural *temporary adhesences* of the healing process were soon dissipated and the desired fixation effects were lost. Thus we now choose to leave the layers of the soft tissue intact and connected, only separating the cheek mass from the bone below. As a result, the *definitive adhesences (from inflammatory non surgical plane dissection)* are created by a subperiosteal surgical dissection, which produces *desirable permanent adhesences*. In addition, voluntary “trauma” of the temporal aponeurosis (plus the *transection* during “in bloc” fixation), now enhances permanence of the adhesences.

Is it necessary to destroy the very useful fixed areas (natural anti-aging anatomical structures) by the sur-



Fig. 18. A: RARE Technique plus lipofilling, on a 44 year old patient with prior poor lower eyelid surgery. **B:** Rejuvenation of the midface by RARE technique and lipofilling. Notice the improvement of the tear trough.

gical procedure? We now think it is not; and moreover, we are convinced that this is the key point of natural and harmonious results, as was explained above.

Is major subcutaneous dissection beneficial for the skin, as previously advocated? We don't think so. Consequently, the skin undermining should be performed only for the resection of mandatory skin excess.

Is it possible to avoid frontal hair resection and hairline modification? Yes, and this change precludes so much of the scarring, which otherwise was one the main side-effects of face-liftings.

Is it possible to rejuvenate the lower eyelid and still preserve its anatomical integrity? Yes, which is important due to the natural fragility of that area.

Is it possible to have more natural, predictable and long-lasting results? Certainly; because in aging, all the tissues (in Sector-2) move downwards in the same way, and keep their relationship. In the RARE method, the natural and integral layer attachments are preserved; and thus the entire sagging volume can be lifted “en bloc”, without any unnatural disturbances between the different layers.

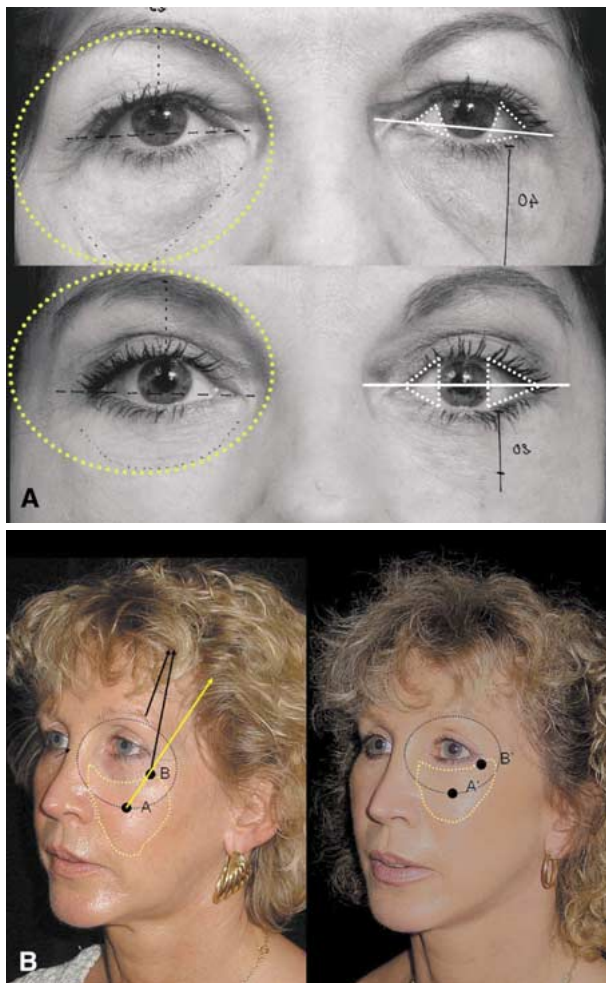


Fig. 19. A: Rejuvenation of the entire facial expression, by repositioning of the Orbicularis Muscle (dotted circle) in a “BOOM” suspension technique; plus a discrete upper eyelid surgery. Notice the rejuvenation effect of the bi-canthus line repositioning, and the “renaissance” of the two white triangles of the eye. **B:** Representation of the results of the repositioning of the Orbicularis (black circle) and malar fat pad (dotted yellow areas) in a 52 year old patient.

Summary of Concepts

This technique does not specifically present anything entirely new in terms of surgical processes, as almost every individual portion has been done before. Instead, our main innovation comes from the application of our alternative concepts as follows:

- Separate corrections of vertical sliding of the face and oblique horizontal sliding of the neck.
- Fixed points which are the areas that have to be preserved to maintain static and dynamic identity (*identity rectangle*: ear, hair, middle of the zygoma, gonion).



Fig. 20. Left: Typical disharmonious look after two previous face-lifts, on a 62 year old patient. Right: Improvement and natural aspect, after a RARE procedure (facial zone only). Note the enhanced features on the 3/4 view.



Fig. 21. Post operative aspect at 10 days, on a 49 year old female. RARE Technique with Endotine Points fixation at the forehead; with slight tip of the nose surgery, but without any lipo-filling. Note the speed of recovery, versus that for standard eyelid surgeries.

- The “homothetic wave tissue repositioning”, which means a harmonious result and a more true facial rejuvenation.
- A substantial conservation of the lower eyelid structures where fat bags are now inherently (by Orbicularis Oculi Malaris re-tensioning) re-integrated, without removal.
- Minimization of typical facelift after-effects; with no hair removal required, and the advantages of very short scars.
- Avoidance of undermining in “surgical planes”, and detachment of fixed areas, which can otherwise affect the stability of the result. The

integrity of the different layers allows lipofilling anywhere during the same procedure.

- The beneficial use and effect of transecting internal suspension “scars”, which can now produce useful permanent adherences through the different layers
- The strong and resistant Orbicularis Oculi Malaris (OOM) is the only possible “expression” and cheek repositioning vector, compared to the very weak and fragile pre-tarsal or pre-septal portions of this muscle, which cannot be used for this main action, but only for additional refinements.
- Avoiding important superficial undermining on the face and the neck, and preserving the integrity of the inferior eyelid, this technique is usable on almost any patient, at virtually any age. Furthermore, the comparative lack of substantial skin undermining allows the technique to be used more aged and/or fragile patients, and even for heavier smokers as well.

Conclusion

Gradually, over the past four years, we have recommended using our RARE technique on more and more cases. In reality, we feel comfortable to propose this option to a *majority* of our patients. Yet, we recognize that it will take time to acquire a greater and greater percentage of patients willing to accept a new form of procedure.

We find that there is only one facial aging process related to the effects of time and gravity, wherein all the different structures are *similarly subject to a sliding motion*. Thus, each component of the aging face is dependent on the one above it; and all of them (en bloc) should be repositioned by being treated *homothetically*. Thus this concept defines what we have called “*The homothetic wave of the time*”; for otherwise, disharmony can occur whenever “Sector- 2” is not treated as an indivisible entity. This technique has dramatically improved our results over the past four years, including a more unified positive appreciation of the result from patients, their “entourage”, and the surgeon. We must keep in mind that a repositioning of a few millimeters of the drooping volumes of Sector 2 can offer a true rejuvenation effect of one decade!

The Orbicularis Oculi Malaris has now become our key tool for facial rejuvenation. If its integrity is preserved, its vertical re-tensioning produces a combination repositioning of the skin, muscle and fat volumes; and these longer lasting results are rather clearly due to the *new and strong bony adherences* which we have induced in the peri-orbital areas.

By preserving the identity structures, and the relationship between the main points of the face, this

technique produces a *true* rejuvenation, by its "homothetic" movement, and thus a Reversal And Repositioning Effect on the sliding aging tissues is achieved for a long time to come....

RARE Technique's purpose is to achieve a repositioning of each part of the face and the neck where it was before, by a better understanding of the aging process; and adapting to it an etiologic "reverse and repositioning" procedure, keeping always in light the two main elements of the aging process: the *loss* and *sliding* of the various volumes.

From our critical point of view, the results of many former techniques were sometimes less than hoped for, in terms of full rejuvenation and longer lasting results. Maybe this is one of the reasons that so many papers about alternative facelift procedures are published every year. In critically observing our "RARE" outcomes, it clearly appears that the patient's face has recovered a more luminous and harmonious appearance, conveying an impression of facial rejuvenation, without loss of the important youthful facial identities. Distances and relationships involved in the facial personality are preserved; and this now stays evident with the face in either static or dynamic mode. *Preservation of fixed areas, conservative surgery, and "homothetic" tissue repositioning, of the face and then the neck, probably all account for this favorable result, and perception of a true "Renaissance"*.

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