



## FACE-LIFT WITH BLOODLESS ATRAUMATIC TECHNIQUE (BAT). REDUCING DOWNTIME, SIDE-EFFECTS AND COMPLICATIONS

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### ABSTRACT

**Introduction:** From the first surgical procedures in the early 1900, face-lifting patients experienced a recovery and return to full normal activities within 14 days to several weeks, depending on the techniques, the instruments and processes used by surgeons and their staff. For ten decades, the norm for patients was prolonged recovery with restrictive bandaging, special garments, drain tubes, narcotic pain medications, and other sometime completely useless adjuncts.

**Materials and Methods:** We used principles derived from physics, video recording with multiple cameras and then documenting and evaluating every move or action that occurred during a face-lift.

**Results:** During many hours of video analysis, actions that were useless were eliminated and other movements refined or combined to make them more efficient and less traumatic.

**Discussion:** Materials and instruments were selected appositely and developed to facilitate surgeon visualization, to reduce mechanical and thermal trauma, and to better control the procedure. Surgical techniques were refined to dramatically reduce all kind of trauma to tissues, and to virtually eliminate bleeding and blood soaking into tissues, causing pain, swelling and inflammation and increasing risks of other complications like hematoma, nerve injuries, skin necrosis.

**Conclusion:** Bloodless Atraumatic Technique Face-lift offer objective improvements in recovery, complications, reoperation rates, and the overall patient experience, but do not happen in a predictable manner without substantial commitment of the surgical staff and effort primarily of the surgeon.

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### INTRODUCTION

From the first surgical procedures in the early 1900, face-lifting patients experienced a recovery and return to full normal activities within 14 days to several weeks, depending on the techniques, the instruments and processes used by surgeons and their staff<sup>1-2-3</sup>. For ten decades, the norm for patients was prolonged recovery with restrictive bandaging, special garments, drain tubes, narcotic pain medications, and other sometime completely useless adjuncts<sup>4-5</sup>.

In October 2015 and June 2016, after more than a decade of work refining all of the processes, instruments, materials and techniques of face-lifting, We presented two lectures, in two of the most respected professional congress in cosmetic medicine and surgery, the International Congress of Aesthetic Medicine of the Italian Society of Aesthetic Medicine (AMIEST) in Milan (Italy) and the International Congress of the World Academy of Cosmetic Surgery (WAOCS) in Velden (Austria). These lectures represented one scientifically confirmed methodology that enabled 95% of 186 consecutive patients to resume full normal activities within 7 to 10 days of their face-lift. Anticipating the understandable distrust of surgeons who

believed that BAT face-lifting was impossible, We invited the representatives of the congress to personally visit and review all of the data of the study, and talk with the patients who experienced the technique.

### MATERIALS AND METHODS

#### Milan Bloodless Atraumatic Technique face-Lift Study

The study began with effort and commitment in order to reduce the recovery time, the invasiveness, the trauma and the amount of medicines that patients received<sup>6-7-8</sup> by first lowering operation times. We used principles derived from physics, video recording with multiple cameras and then documenting and evaluating every move or action that occurred during a face-lift. During many hours of video analysis, actions that were useless were eliminated and other movements refined or combined to make them more efficient and less traumatic. Materials and instruments were selected appositely and developed to facilitate surgeon visualization, to reduce mechanical and thermal trauma, and to better control the procedure. Surgical techniques were refined to dramatically reduce all kind of trauma to tissues, and to

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virtually eliminate bleeding and blood soaking into tissues, causing pain, swelling and inflammation and increasing risks of other complications like hematoma, nerve injuries, skin necrosis<sup>2-9-10</sup>. We had already demonstrated that BAT Face-lift was not only possible, but of paramount importance predictable by applying specific processes, implementing strictly protocols and surgical techniques<sup>11-12-13-14</sup>.

In 2015 in Milan (Italy), to counteract the natural skepticism of surgeons, we performed a face-lift in a live surgery setting during a symposium of the Italian Society of Aesthetic Physicians and Surgeons (SIMOE). The attending surgeons were able to look at the live surgery via a video transmission and were able to interact and to question during the procedure. The surgery required less than one hour and a half, and the patient went home less than four hours after the face-lift ended. All of her recovery from the time she went home and back to work seven days later has been documented and is forthcoming in scientific articles.

Actually, only few surgeons have demonstrated equivalent surgery and healing in a live surgery setting as the symposium of the Italian Society of Aesthetic Physicians and Surgeons (SIMOE). We have documented our cases with high level of predictability, accountability, and independent monitoring. Patients frequently ask why more surgeons have not adopted the Bloodless Atraumatic Technique and obtained similar results. A deep thorough understanding of what is necessary and required to achieve this level of surgery will help answer the question.

## RESULTS

### *How to Achieve Bat Face-Lift*

In a predictable manner delivering Bloodless Atraumatic Technique Face-lift results need that surgeons read carefully, practice cautiously, and implement closely all of the procedures that have been described and identified<sup>15-16-17-18</sup>. Many surgeons implement and adopt some of the methods, but prefer not to follow the entire process described. Evidence clearly shows that not implementing all of the identified processes results in a failure to deliver this level of healing. A few surgeons in Italy have implemented most of the processes and deliver BAT Face-lift results in most cases but even those surgeons have not documented an equivalent level in peer reviewed and published scientific studies and in live surgery venues as the symposium of the Italian Society of Aesthetic Physicians and Surgeons (SIMOE).

### *Patients*

Patients play a major role in achieving BAT Face-lift recovery. We provide comprehensive and detailed education materials. Patients must fully understand the entire method, and what their role and responsibilities are toward making it happen. Thorough education placates many normal patient uncertainties, and enables in an optimal way comply with their postoperative care instructions.

### *Surgeons*

The surgeon must carefully control all the surgical theatre. The surgeon must operate in a facility where the surgeon is assured that he can uniformly and repeatedly expect to work with the same personnel. The surgical team including anesthesiologists, nurses and all recovery personnel, will follow prescribed and precise protocols in a severe manner<sup>19-20-</sup>

<sup>21-22</sup>. The surgeon must agree to pay the staff to train above and beyond what is normally expected. Of paramount importance the constant and permanent training of the surgeon alone and with his personal staff. Only rigid, fixed and dedicated program of practice allow BAT Face-lift results.

### *Tissue analysis and clinical evaluation*

Surgeons need to be objective when reviewing data and analyzing tissues<sup>23-24-25</sup>. Clinical evaluation must always be performed using objective assessment instead of subjective measurements. Surgeons must abandon the use of adjectives like sagging, jowling, or terms like loose skin, empty skin to characterize each individual patients tissue characteristics; employing objective measurements with a proved without bias and scientifically validated system to offer optimal cosmetic results and the lowest risks of complication, reoperation rate and uncorrectable deformities<sup>26-27-28</sup>.

### *Anesthesia protocols*

Only rigid adherence to fixed and defined technique of local anesthesia, employing materials and instruments selected appositely and developed to reduce mechanical trauma (i.e. cannula instead of needle), sedation and post-anesthesia recovery protocols that minimize the amount of medicine a patient receive and reduce the possibility of venous thromboembolism, allow BAT Face-lift recovery<sup>29-30</sup>. These protocols require the anesthesiologists to strictly follow the guidelines and surgeons to be able to perform face-lift in 120 minutes or less eliminating useless, unproductive, time-wasting steps and decision making in the operating theatre<sup>31-32</sup>. Local anesthetic injection with percutaneous blunt cannulae is likely one of the most important development in local anesthesia injection technique.

(See video 1, which demonstrates a blunt-tipped cannulae being easily passed through subcutaneous tissue for minimal pain and decreased bruising during a face-lift).

Fine 22 gauge cannulae (length 10 cm) introduced through skin perforation created by 21 gauge needles allow to infiltrate the entire area of the face through one or two needle hole in the superior and inferior cheek skin with the greatly added benefits of minimal pain and more important less bruising. The negligible downsides of blunt cannulae are the higher cost of cannulae versus sharp needles and the technical maneuver of getting the cannula in a needle hole<sup>34</sup>.

### *Surgical Staff and OR*

As stressed before only the possibility of working with the same OR personnel, well trained, and in the same facility assure the entire process, eliminate useless waste of precious time and reduce the possibility of mistakes and complications. Each member of the surgical staff has his own specific role and defined movements in order to reach the most efficient surgical method. Regular training of the surgical staff itself, with the surgeons and with the anesthesiologists is also recommended. The protocols have been carefully described and are forthcoming in scientific articles.

### *Surgical Processes and Instrumentations*

Surgical techniques and instrumentations have been refined and selected to reduce all kind of trauma to tissues, and to virtually eliminate bleeding and blood soaking into tissues, causing pain, swelling and inflammation and increasing risks of other complications like hematoma, nerve injuries, skin

necrosis. Implementing detailed surgical methods and instrumentations allow to reach a prospective hemostasis. The surgeon has the possibility to create the flap used for different face-lift procedures while preventing over 95% of bleeding that would normally occur with older strategies<sup>29</sup> (No Blood Technique).

Radiofrequency electrosurgical systems, first developed in 1928, are the most common energy sources used for cutting and hemostasis in surgery. But not all systems are the same. Unlike the low frequency, high temperature products that are widely used for general surgery, the high frequency, low temperature technology is optimized for applications where minimal collateral tissue damage is desired.

The 4.0 MHz generators, at a frequency 7-10 times higher than standard generators, provide surgical precision and controlled hemostasis. This advanced technology produces minimal lateral thermal spread, reducing the injury to surrounding tissue. The clinical benefits are minimal scar tissue formation, enhanced healing and minimal post-operative pain, all highly desirable features for cosmetic surgery. A study from the University of Iowa compared thermal damage from the high frequency generator to second leading low frequency RF generators in porcine tissue. The histological analysis demonstrated that the 4.0 MHz generator resulted in 73% less thermal spread than the other products in the study. By preventing bleeding before it ever occurs using the 4.0 MHz generator and specially designed electrocautery forceps to create the plane of dissection, blood does not soak into adjacent tissues and cause pain, inflammation, and increased rates of adherence that are common with older techniques that cause much more bleeding. The incidence of hematoma in a series of 186 face-liftings from 2012 to 2014 has been 0 percent.

(See video 2, which demonstrates the tissue dissection with 4.0 MHz generator providing surgical precision and controlled hemostasis).

## DISCUSSION

Implementing detailed surgical techniques and instrumentation allow dramatic reduction of mechanical and thermal trauma to tissues, pain and swelling that result from tissue trauma (No Touch Technique). Specific surgical instruments and equipments allow surgeons to obtain optimal visualization while minimizing pressure and trauma to tissues, and to create the plane of dissection with much less trauma compared to blunt or sharp dissection techniques used by many surgeons that rip and tear skin and subcutaneous tissues with a finger, a blunt instrument, a lancet or a scissor and cause much more bleeding<sup>25</sup>.

### Protocols for patient recovery

Defined protocols have been created for patient recovery both in the surgery facility and after returning home. The favorable reduction in tissue trauma and bleeding using the processes, the techniques and the instruments described results in decrease in pain, edema and ecchymoses, and return to normal activities within 7 to 10 days. Except for the first five days (24 Hours) and first 10 nights (12 Hours) patients do not have to tolerate the inconvenience of many commonly used postoperative devices, compressive bandages, drain, pain pumps, and rigid instructions to remain immobile and restrict activities<sup>26-35</sup>. If surgeons follow the guidelines these

postoperative recommendations have been conclusively shown to be totally useless.

## CONCLUSIONS

Bloodless Atraumatic Technique Face-lift offer objective improvements in recovery, complications, reoperation rates, and the overall patient experience, but do not happen in a predictable manner without substantial commitment of the surgical staff and effort primarily of the surgeon. Offering this redelineated level of patient journey needs that surgeons study all the entire method and strictly follow the processes and techniques. We also highlight that only rigid, fixed and regular program of training with the surgical staff allow BAT Face-lift results. We underline that protocols have been extensively and carefully described and are forthcoming in scientific articles. In summary, we could not guarantee in all the patients the same high level surgical experience, due to complications or unexpected issues, but over the last four years since we delineated the techniques for BAT Face-lift, over 95% of our patients in a consistent and predictable manner experienced it.

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