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### Biologically Derived:

Produced by a **safe, biologic fermentation** process standard in pharmaceutical production<sup>1</sup>

### Monofilament:

Monofilament designs have been reported to **reduce risk of infection** as compared to multifilament scaffold<sup>1,2,3,4,5</sup>

### Strong:

Provides a lattice for new tissue ingrowth resulting in tissue **3-5x stronger** than native tissue<sup>3</sup>

### Bioresorbable:

Naturally broken down to CO<sub>2</sub> and H<sub>2</sub>O, with full bioresorption by **18-24 months**<sup>1</sup>

## Facial Plastics

# Platysmaplasty with GalaFLEX® Scaffold

## Background

As the face ages, the platysmal muscles undergo ptosis, separation, and weakening which results in a loss of support for the overlying tissue leading to platysmal "banding" that is bothersome to patients. The platysmaplasty (neck lift) is performed to lift the underlying muscles of the neck and tighten

tissue to improve and sharpen the contour of the neck and jawline. Current platysmaplasty techniques that involve resuspension of the platysmal muscles via plication with suture have met limited success due to patient discomfort and short term durability of cosmetic improvement. When permanent sutures are plicated to simulate an artificial ligament to tighten the neck and improve the contour of the jawline, patients sometimes feel the sutures pulling or tugging during normal activity. The benefit of using an absorbable mesh in this procedure is to support the platysmal muscles to more evenly distribute the load, improve patient comfort and to support the desired aesthetic outcome.



## Key Points

As a flexible biomaterial, GalaFLEX scaffold:

- Acts as sling to support the weakened platysmal muscles
- Conforms to the jawline
- Not palpable through the skin

## CASE OVERVIEW:

# Platysmaplasty with GalaFLEX<sup>®</sup> Scaffold

Patient was a 67 year old male who complained of generalized signs of facial aging in the face, eyebrow and eyelids but was otherwise in good health. He had a prior history of upper and lower cosmetic eyelid surgeries in the early 1990's. A comprehensive facelift including a poly-4-hydroxybutyrate (P4HB) mesh, GalaFLEX Scaffold, for platysmaplasty was determined to be of use based upon his heavy facial attributes. In this patient's case, the placement of a resorbable mesh was used as a "hammock" to support and hold the platysmal muscle in its new position. Also to be performed concurrently were revision upper and lower blepharoplasty involving skin, muscle and fat removal.

## Procedure

Prior to surgery, 1% lidocaine with 1:200,000 epinephrine was injected through the incision sites to the areas of operation. The patient's neck was massaged to ensure distribution of the lidocaine and epinephrine. The skin layer was dissected from the platysma muscle from the chin incision point toward the trachea. Next, one continuous incision was made around the ear along the patient's natural creases and hairline. The skin was then dissected away from the platysma muscle to the chin separating the skin from the muscle from one ear to the other. The platysma was then separated from the underlying nerves. This layer was bifurcated and pulled back rather than trimmed to redirect the muscle into 2 vectors rather than 1 plane. This allowed for a more natural appearance and reduced the "wind tunnel" effect. 3-0 MonoMax<sup>®</sup> suture (B. Braun Surgical), interrupted figure 8 stitch, was used to secure the muscle at the front of the patient's ear and also behind the ear.

A 6" x 8" sheet of GalaFLEX was cut into three equal pieces of approximately 2" x 8". A slight curve was cut into the mesh at one side to contour the mesh to the patient's neck. GalaFLEX was soaked in bacitracin prior to use. One mesh was then tunneled through the patient's face from the ear to the chin with the curved edge at the jaw line on each side. Each piece of GalaFLEX was sutured to the patient's

platysma muscle under the chin using 3-0 MonoMax; if entering from the left side the mesh was fixed to the right platysmal plane, if entering from the right side the mesh is fixed to the left platysmal plane. Fixing to the opposite platysmal plane from the side being lifted prevents the platysmal border from separating and allows for a long-lasting repair by preventing the reoccurrence of muscle sag.

Once fixed at the chin, each was pulled up toward the ear, cut into a "V" shape to distribute the force into 2 vectors. The posterior edges of the GalaFLEX were kept at a minimum of 1.5cm from the location of the skin incision to ensure no mesh would lie within the skin closure line as well as to maintain maximum wound edge oxygenation by the vertical ingrowth of neovascular structures into the distal aspects of the rhytidectomy flap. GalaFLEX was finally secured along its upper edge using 3-0 MonoMax, trimmed at the jaw line to ensure conformity to the face and to eliminate any potential for bunching or rolling along the long mesh edges.

4-0 Vicryl suture (Ethicon) was used to secure the subcutaneous layer via an inverted interrupted suture technique and 5-0 plain gut was used to close the skin layer in a running suture fashion after trimming excess skin.

## Patient Follow-up

The aesthetic appearance of the neck was evaluated by physician comparison of preoperative and postoperative photographs at 1 week, 1 month and 3 months as of this writing. Good maintenance of the jawline and submandibular contours are noted as of this writing.



Figure 1. Patient Images, Front View



Figure 2. Patient Images, Side View

## Discussion

The maintenance of the jawline contour after rhytidectomy has long been challenging; the male neck being the most difficult to maintain improvement. Especially in the heavier featured male or female, the neck muscles have even more tendency to relax as long term healing takes place. A number of techniques attempt to address this such as the Giampapa suspension suture technique and various midline platysmarplasty techniques. The primary problem with the platysma is that even though pulled taut at surgery, it is muscle and will over the immediate post-operative weeks and months relax and stretch against the strain from the plication fixation sutures. The muscle desires to come into a resting state that is not tense. As muscle relaxation occurs, especially in the heavier set individuals, an undesired laxity can develop along the jawline. The idea behind the plicated suture is sound but the rigid linear aspect of a single suture line can create an undesired choking or strangulation

sensation. A resorbable mesh sling seemed to be an alternative idea. In use, GalaFLEX Scaffold relaxes during the recovery period but the sling continues to support the muscle and neck structure to maintain the contour improvement. Moreover GalaFLEX Scaffold is fully absorbed over 18-24 months. Placement of GalaFLEX Scaffold over the areas anterior and posterior to the auricle coincides with it overlapping the site of the figure of 8 plication sutures for the Multi-Vector Rhytidectomy. This overlapping adds strength to these areas and distributes the suspensory forces that may help to prevent the "cheese wiring" effect associated with suture.

In conclusion, GalaFLEX Scaffold is a novel resorbable mesh with distinctive properties. Additional surgical patients along with long-term observations of the post-operative period will be highly informative.

## References

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3. Deeken CR, Matthews DB. (2013). "Characterization of the Mechanical Strength, Resorption Properties, and Histologic Characteristics of a Fully Absorbable Material
4. Halaweish I, Harth K, Broome AM, Voskerician G, Jacobs MR, Rosen M. "Novel In Vitro Model for Assessing Susceptibility of Synthetic Hernia Repair Meshes to Staphylococcus aureus Infection Using Green Fluorescent Protein-Labeled Bacteria and Modern Imaging Techniques." *J Surg Infect (Larchmt)*. 2010; Oct1(5): 449-54.
5. Wolloscheck T, Gaumann, A, Terzic A, et al. Inguinal hernia: Measurement of the biomechanics of the lower abdominal wall and the inguinal canal. *Hernia*, 2004; 8:233-241.

## Indications for Use

Galatea scaffolds are indicated for use as a bioresorbable scaffold for soft tissue support and to repair, elevate and reinforce deficiencies where weakness or voids exist that require the addition of material to obtain the desired surgical outcome. This includes reinforcement of soft tissue in plastic and reconstructive surgery, and general soft tissue reconstruction. Galatea scaffolds are also indicated for the repair of fascial defects that require the addition of a reinforcing or bridging material to obtain the desired surgical result.

## Important Safety Considerations

Possible complications include infection, seroma, pain, scaffold migration, wound dehiscence, hemorrhage, adhesions, hematoma, inflammation, extrusion and recurrence of the soft tissue defect. The safety and use of a Galatea scaffold for patients with hypersensitivities to the antibiotics kanamycin sulfate and tetracycline hydrochloride is unknown. Galatea scaffolds have not been studied for use in breast reconstructive surgeries. The safety and effectiveness of a Galatea scaffold in neural tissue and in cardiovascular tissue has not been established. Because a Galatea scaffold is fully bioresorbable, it should not be used in repairs where permanent support from the mesh is required.

**Consult the Galatea scaffold Instructions for Use for complete prescribing information, including its indications for use, warnings and precautions.**

**Examples of clinical outcomes in this case study are not intended to convey or warranty the outcomes or benefits from soft tissue support using GalaFLEX.**



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