

# Innovations in Facial Cosmetic Surgery

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Technological and clinical innovations in facial cosmetic surgery have accelerated over the last 15 years. These advances often allow the surgeon to achieve an improved cosmetic results with decreased patient downtime and complications. This chapter will illustrate multiple current advances in facial cosmetic surgery.

## Non-invasive Management of Submental Lipomatosis

Submental lipomatosis is a common cosmetic concern that most oral and maxillofacial surgeons may treat. In patients with moderate to significant fatty deposits, conventional submental liposuction with or without a facelift, still provides the most desirable aesthetic outcomes. However, in milder cases, non-invasive techniques are now available and are desirable by the patient requiring minimal downtime. As the demand in cosmetic surgery increases, patients seeking these non-invasive and conservative means of treatment have also increased. These include cryolipolysis and injectable chemolipolytic agents (deoxycholic acid).

## Cryolipolysis

### Indications

1. Visible submental and/or submandibular lipomatosis

### Contraindications

1. Open or infected wounds
2. Cryoglobulinemia
3. Paroxysmal cold hemoglobinuria
4. Cold agglutinin disease
5. Excessive submental skin laxity
6. Pregnancy or breastfeeding

## Procedure: Submental and Submandibular Cryolipolysis

1. The patient is positioned supine on the patient table and an appropriately sized vacuum suction is selected.
2. A protective conducting gel is applied to the treatment area. A small volume vacuum applicator is

positioned at the treatment area (CoolMini applicator, CoolSculpting System, ZELTIQ Aesthetics, Pleasanton, CA, USA) and secured around the patient's head (See Figure 44.1).

3. After confirming accurate placement of the applicator, vacuum suction is initiated for a treatment session of 45–60 minutes with a temperature set at  $-10^{\circ}\text{C}$ .
4. Following completion of the session, manual massage for at least 2 minutes over the treatment area will assist in obtaining normal tissue contour as the pressure from the vacuum suction will cause some areas to raise.
5. Additional cooling cycles can be performed 6 weeks apart, following the same protocol.

## Early Complications

1. **Discomfort, edema, erythema, ecchymosis, itching, skin sensitivity, and hypoesthesia:** May present up to a few weeks following treatment.
2. **Transient tongue deviation:** Due to exposure of the hypoglossal nerve to cold temperatures.
3. **Transient weakness of lower lip muscles:** Due to exposure of the marginal mandibular nerve to cold temperatures.
4. **Decreased salivary production:** Due to exposure of the submandibular gland to cold temperatures.

## Late Complications:

1. **Paradoxical adipocyte hyperplasia (PAH):** Although rare, adipocyte hyperplasia may occur and present as a well-demarcated firm mass at the treatment area, 2–5 months after treatment. Conventional liposuction will resolve this concern.
2. **Hyperpigmentation:** Usually resolves spontaneously; however, may be managed with depigmentation agents (i.e., 4% Hydroquinone BID).