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VIDEO

Breast

Wide Awake Breast Reduction

Meegan M. Gruber, MD, PhD*; Donald H. Lalonde, MD, FRCSC†

WIDE AWAKE BREAST REDUCTION COMBINES 2 SIMPLE OPERATIONS AT THE SAME SITTING

The liposuction-assisted approach was developed as a response to patient desire for an awake, rapid recovery procedure such as liposuction, but with the included benefits and outcomes of added skin and breast resection. Traditional teaching is to avoid liposuction in patients who would end up with skin laxity. In earlier versions of this technique, the first author would perform a staged operation with awake liposuction first, and then a mastopexy 6 months later. This was not ideal, and many patients did not want general anesthesia. This led the author to develop a strategy to remove the lax skin and dense breast at the same operative time as the awake liposuction.

Liposuction effectively renders excision of the lateral breast nearly bloodless, painless, and rapidly performed with scissors or cautery. This technique allows for the resection of large volumes of tissue while the unsedated patient is comfortably wide awake.

There are existing publications on "awake" breast surgery, but for most surgeons, this means with sedation.[1] Minimally painful injection of tumescent local anesthesia eliminates the need for sedation.[2] This article and its accompanying videos will help surgeons to start to use a simple technique of wide awake breast reduction. It combines 2 procedures that are commonly performed by plastic surgeons on the unsedated patient: tumescent liposuction and skin excision.

Three different types of local anesthesia are injected in this order. (**See Video 1 [online]**, which displays how to inject the local anesthesia for wide awake breast reduction.)

Use as much of each as required of the following:

1. Tumescent infiltration fluid for liposuction.

600 mL total: 500 mL Ringers + 75 mL 1% lidocaine (lido) with 1:100,000 epinephrine (epi) (750 mg lido + 0.75 mg epi) + 15 mL 0.5% ropivacaine (ropi) (75 mg) + 10 mL 8.4% Na bicarbonate (bicarb).

2. Local anesthesia for skin incisions.

60 mL total: 30 mL of 1% lido (300 mg) with 1:100,000 epi (epi 0.3 mg) + 25 mL of Ringers + 5 mL of bicarb.

3. Breast/fat surgical dissection planes and touch up anesthetic if there are areas of sensation during surgery.

120 mL total: 30 mL of 1% lido (300mg) with 1:100,000 epi (0.3 mg) + 30 mL of Ringers + 60 mL ropi (300 mg). Bicarb should not be added, or the ropi will precipitate.

With these 3 recipes, we have a total of 1350 mg lido and 375 mg ropi. This will be safely under 35 mg/kg in patients weighing 70 kg and higher. In smaller patients, decrease the volume to remain less than 35 mg/kg. In very large patients who may need more than 600 mL of tumescent fluid, we calculate a safe higher volume that respects the limit of not exceeding 35 mg/kg of lido[3] or 375 mg of ropi[4] for any patient. We post the volume limits at the beginning of each case and do not exceed them.

Positive implications for awake surgery include:

- Elimination of morbidities of general anesthesia (nausea, vomiting, aspiration, thromboembolism, and malignant hyperthermia).
- Fewer postoperative narcotic and antiemetic medication requirements.
- Rapid recovery with no need for postoperative anesthetic care unit time and resources.
- High patient satisfaction and confidence due to their awareness and involvement during surgery.
- Patients who are awake can easily sit during surgery to help surgeons assess the effects of gravity to get better, more predictable outcomes.
- Patients who are awake can easily turn from side to side.
- Heavy patients can lift themselves off of the operating table.
- Cost-efficient use of resources with limited need for complex machinery, continuous monitoring, and expensive medications.

*From the *Gruber Plastic Surgery, Tampa, FL; and †Division of Plastic Surgery, Dalhousie University, Saint John, New Brunswick, Canada.*

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- Accessibility of surgery to patients with contraindications to general anesthesia.
- Access to service in areas without the infrastructure needed for sedation.

Adaptations required for awake patients are as follows:

- It can take time and patience to work with some patients who are awake.
- Efforts must be made to keep patients calm and comfortable.
- Staff must be willing to be friendly and reassuring during the procedure.
- Be vigilant and do a total body preparation to maintain sterility in the awake, moving patient.
- Tumescent fluid infiltration must be done slowly to avoid discomfort. Our goals are to cause the patient as little pain as possible with all injections and for the patient to have pain-free surgery.[5]
- Encourage patients to shift positions if they are uncomfortable lying still on their back.
- Warm the environment when patients tell you they are cold.
- A restroom break and a possible snack should be built into any surgery over 2 hours.
- In some cases, liposuction is more time-consuming than direct surgical excision.
- Surgeons invest more time in anesthesia, but the patients love the approach and the bond with the surgeon.

Details:

- The patients eat, drink, and take all their usual medications the morning of surgery.
- The patients are given oral Tylenol 325 mg with or without 5mg oxycodone as desired, Keflex 500 mg (or clindamycin 300 mg) and Phenergan 25 mg.
- If the patient's blood pressure is greater than 140/80 mm Hg, 0.1 mg clonidine is given.
- Benzodiazepines and other sedatives are avoided due to alteration of mental capacity and difficulty in remembering requests.
- After the liposuction, we decide how much breast needs to be removed to get to an ideal volume. (**See Video 2 [online],** which displays the first part of surgery: liposuction breast reduction.) (**See Video 3 [online],** which displays the second part of surgery: skin and breast resection [includes standing preparation].) (**See Video 4 [online],** which displays the finessing breast reduction and skin closure. The patient sees themself in the mirror at the end.)
- Many cases require only liposuction and skin excision.
- We find the technique suitable for all breast volumes.
- We do not use drains.
- In 7 years of experience, we have never had to convert to general anesthesia.
- Monitoring is available but usually not required.[2,3]

Contraindications include:

- High anxiety.
- Old scars from prior procedures increase infiltration pain and decrease diffusion of tumescent fluid.
- Liver disease can be a problem with the degradation of local anesthetics.
- Cardiac tachyarrhythmias might be worsened with epi.

Meegan M. Gruber, MD, PhD
Gruber Plastic Surgery
3971 Moran Road, Suite 102
Tampa, FL 33618
E-mail: mmg6543@gmail.com

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