Local anesthesia pdf

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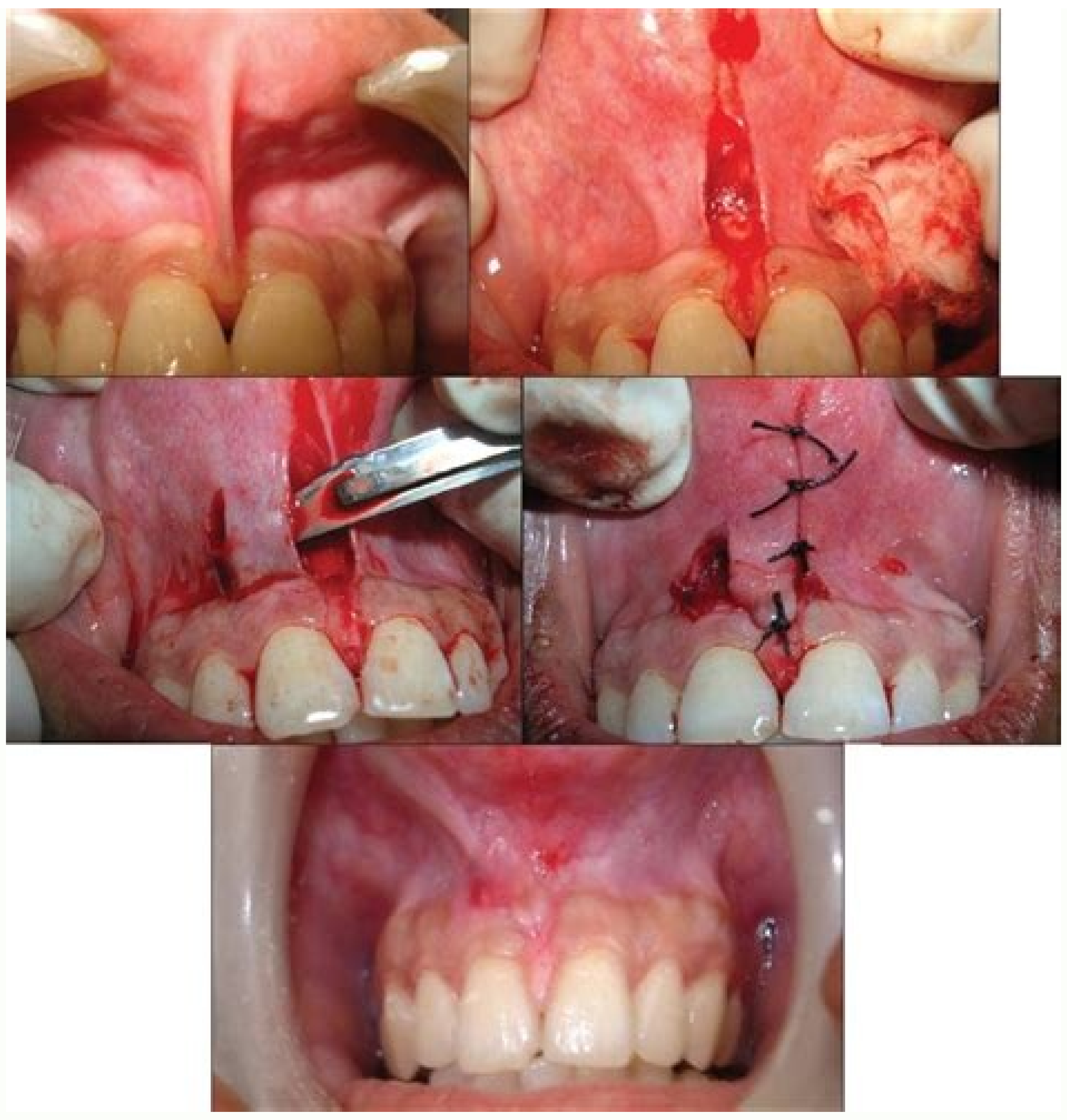
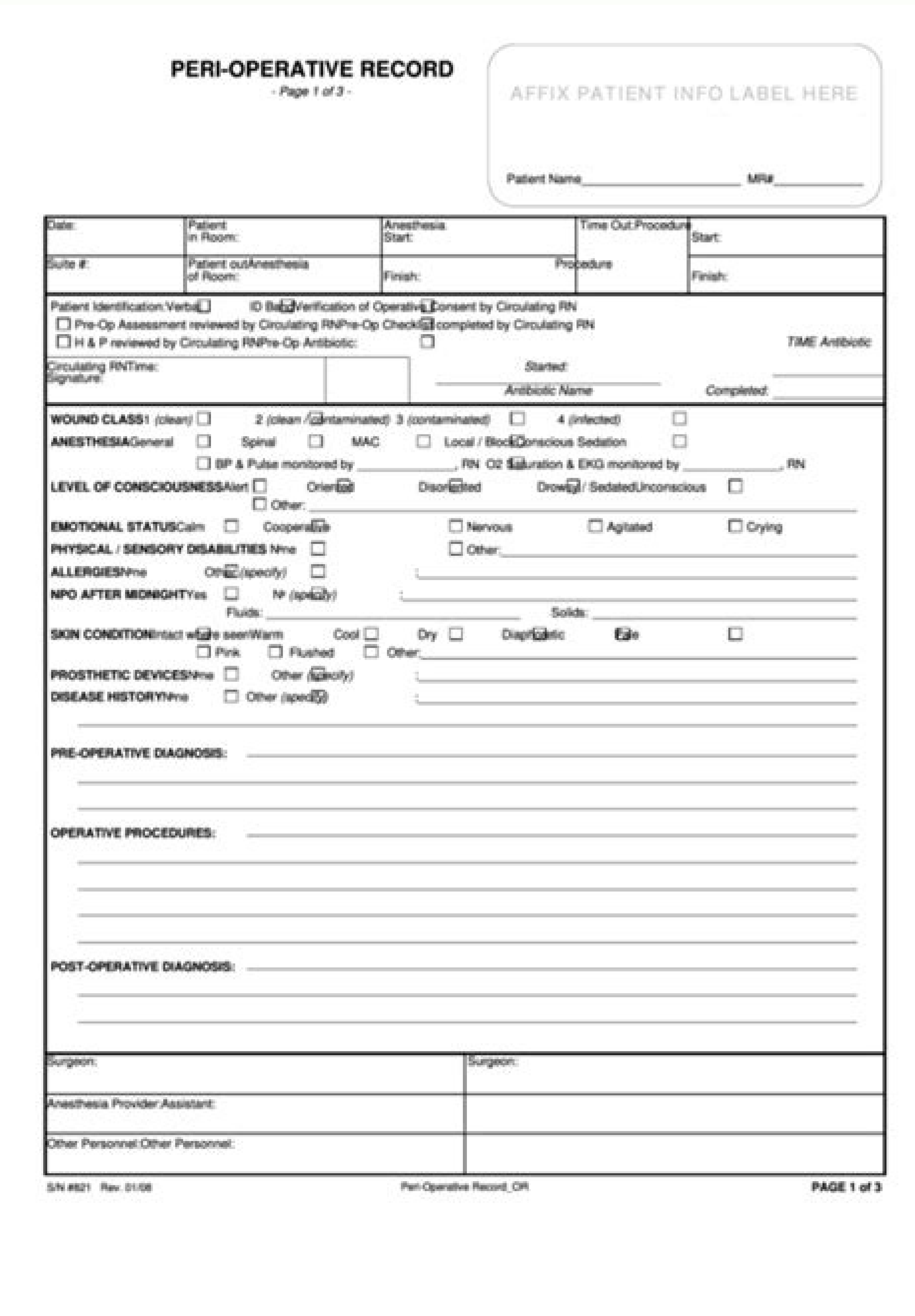


Sensory Innervation of Jaws

Nerve	Teeth	Soft Tissue
Inferior alveolar nerve	All mandibular teeth	Buccal soft tissue of premolars, canine, and incisors
Lingual nerve	None	Lingual soft tissue of all teeth
Long buccal nerve	None	Buccal soft tissue of molars
Anterior superior alveolar nerve	Maxillary incisors and canine tooth	Buccal soft tissue of incisors and canine
Middle superior alveolar nerve	Maxillary premolars and portion of first molar tooth	Buccal soft tissue of premolars
Posterior superior alveolar nerve	Maxillary molars except for portion of first molar tooth	Buccal soft tissue of molars
Anterior palatine nerve	None	Lingual soft tissue of molars and premolars
Nasopalatine nerve	None	Lingual soft tissue of incisors and canine



PERI-OPERATIVE RECORD
- Page 1 of 3 -

AFFIX PATIENT INFO LABEL HERE

Patient Name________ MR#________

Date:	Patient in Room:	Anesthesia Start:	Time Out:Procedure	Start:
Suite #:	Patient outAnesthesia of Room:	Finish:	Procedure	Finish:

Patient Identification:Verbal ☐ ID Band Verification of Operative Consent by Circulating RN
☐ Pre-Op Assessment reviewed by Circulating RNPre-Op Checklist completed by Circulating RN
☐ H & P reviewed by Circulating RNPre-Op Antibiotic: ☐ TIME Antibiotic
Circulating RNTime: Signature: Started: Antibiotic Name Completed:

WOUND CLASS1 (clean) ☐ 2 (clean /contaminated) 3 (contaminated) ☐ 4 (infected) ☐
ANESTHESIAGeneral ☐ Spinal ☐ MAC ☐ Local / BlockConscious Sedation ☐
☐ BP & Pulse monitored by ____, RN O2 Saturation & EKG monitored by ____, RN
LEVEL OF CONSCIOUSNESSAlert ☐ Oriented Disoriented Drowsy / SedatedUnconscious ☐
☐ Other:
EMOTIONAL STATUSCalm ☐ Cooperative ☐ Nervous ☐ Agitated ☐ Crying
PHYSICAL / SENSORY DISABILITIES None ☐ ☐ Other:
ALLERGIESNone Other (specify) ☐
NPO AFTER MIDNIGHTYes ☐ No (specify)
Fluids: Solids:
SKIN CONDITIONIntact where seenWarm Cool ☐ Dry ☐ Diaphoretic Pale ☐
☐ Pink ☐ Flushed ☐ Other:
PROSTHETIC DEVICESNone ☐ Other (specify)
DISEASE HISTORYNone ☐ Other (specify)

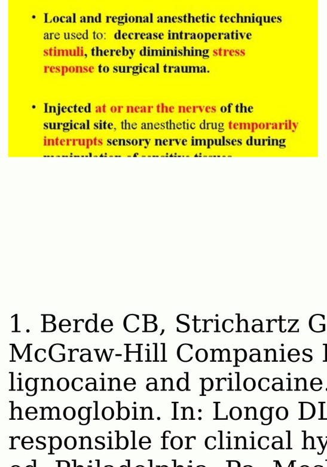
PRE-OPERATIVE DIAGNOSIS:

OPERATIVE PROCEDURES:

POST-OPERATIVE DIAGNOSIS:

Surgeon:	Surgeon:
Anesthesia Provider:Assistant:	
Other Personnel:Other Personnel:	

S/N #821 Rev. 01/08 Peri-Operative Record_OR PAGE 1 of 3



Local anesthesia drugs. Local anesthesia mechanism of action. Local anesthesia definition. Local anesthesia dental. Local anesthesia side effects. Local anesthesia classification. Local anesthesia slideshare. Local anesthesia in dentistry.

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For proper administration of local anesthetics, consider the individual characteristics of the patient, dose of local anesthetic to be administered, presence or absence of epinephrine, speed of administration, local tissue vascularity, and technique of administration. In each case, physicians should strive to find the smallest dose possible administered over the longest period of time that achieves adequate anesthesia. Dosages are presented in the table below. Table. Dosages of Local Anesthetics (Open Table in a new window) Drug Onset Maximum Dose(with Epinephrine) Duration(with Epinephrine) Lidocaine Rapid 4.5 mg/kg (7 mg/kg) 120 min (240 min) Mepivacaine Rapid 5 mg/kg (7 mg/kg) 180 min (360 min) BupivacaineRopivacaineLevobupivacaine SlowMediumMedium 2.5 mg/kg (3 mg/kg)2-3 mg/kg2.0 mg/kg or 400mg in 24 hrs 4 hours (8 h)3 hours (6 h)4-6 hours (8-12 h) Procaine Slow 8 mg/kg (10 mg/kg) 45 min (90 min) Chloroprocaine Rapid 10 mg/kg (15 mg/kg) 30 min (90 min) Etidocaine Rapid 2.5 mg/kg (4 mg/kg) 4 hours (8 h) Prilocaine Medium 5 mg/kg (7.5 mg/kg) 90 min (360 min) Tetracaine Slow 1.5 mg/kg (2.5 mg/kg) 3 hours (10 h) The surgeon should calculate the maximum tolerable dose by giving consideration to the dose to be used, patient weight, and any history of heart disease. Although the anesthesiologist is a useful person to consult regarding maximum dose allowable in a particular patient, ultimately, the responsibility of deciding what dose is safe and taking care not to exceed that dose lies with the surgeon. [7, 8] Dilution of the concentration of local anesthetic may aid in decreasing the total dose required to establish adequate anesthesia. Commercial preparations of local anesthetics are typically provided in bottles of 1% or 2% concentrations. These concentrations are higher than those required to produce the desired effect in most individuals. By diluting the solution with sterile injectable saline, the surgeon can decrease concentration to 0.25%, 0.5%, or other concentrations. This provides additional volume for injection over a larger operative field without increasing the total dose administered. A word of caution is necessary. Commonly, when drawing up local anesthetic solution for injection, the solution is prepared by the circulating nurse or scrub nurse. Calculating doses from percentages can be confusing, and preparation of local anesthetic solutions may involve mixing multiple medications, including local anesthetic, epinephrine, bicarbonate, and sterile saline. The author knows of one situation in which the surgeon inadvertently injected formalin into the upper eyelids of a patient undergoing blepharoplasty. The surgeon must ensure that all injectable solutions contain the proper medications, dose, and concentration. Addition of epinephrine to the local anesthetic solution may improve safety and allow administration of lower doses of local anesthetic. For example, a study by Warren et al indicated that in mandibular nerve blocks, buffered 1% lidocaine with 1:100,000 epinephrine is similar to nonbuffered 2% lidocaine with 1:100,000 epinephrine with regard to the duration of pulpal anesthesia. [9] Since local anesthetics are vasodilators, they tend to be absorbed into the bloodstream from the operative field because of vasodilatation of peripheral arterioles. Epinephrine induces vasoconstriction, delaying absorption of the local anesthetic for longer duration of action at the site of injection. By delaying absorption, epinephrine also increases the safe dose of local anesthetic that may be administered. Addition of epinephrine also improves hemostasis of the operative field, which may decrease duration of the operation and thus obviate the need for prolonged local anesthetic effect. This can help avoid the need for subsequent injection if local anesthetic begins to wear off as surgery proceeds. Epinephrine has been demonstrated to cause effective vasoconstriction at concentrations as small as 1:1,000,000, although most surgeons use a concentration of 1:100,000 to 1:400,000, which is available in commercial preparations. Lower concentrations of epinephrine require longer to achieve maximal effect. Thus, when using dilute concentrations of epinephrine, the surgeon should wait longer between injection and incision than when using solutions containing higher concentrations of epinephrine. Epinephrine has its own toxicities and should be used with caution in certain patients. Cardiac arrhythmias may be produced in patients with heart disease or with the concomitant use of halothane anesthesia. Hypertension may develop in patients with a preexisting history of hypertension or with hyperthyroidism. In some cases, hypertension may be severe and actually trigger a hypertensive crisis. Epinephrine has also been demonstrated to be detrimental to the survival of delayed or expanded flaps, since the new vessels present in these flaps appear to be exquisitely sensitive to the effects of epinephrine. Some authors prefer not to use local anesthetic solutions containing epinephrine on the helix of the ear or nasal alae, although this author has never encountered problems with its use in these locations. Bicarbonate is another drug that is commonly added to local anesthetic solutions, particularly when the patient is awake. Because the pH of local anesthetic solutions is generally 4-5 to prolong shelf life, patients often experience burning on injection. Addition of 1 cc of a 1 mEq/mL solution of bicarbonate for every 9 cc of local anesthetic can alleviate this burning and improve patient comfort. Speed of administration is also important because toxicity develops as a result of peak serum concentration. When multiple areas are to be anesthetized with local anesthetic, inject each site sequentially rather than all at once at the beginning of the procedure. If an area will not be operated on at the beginning of the procedure, wait to inject it until ready to extend the procedure to that site. This spreads the total dose of local anesthetic over a longer period, leading to lower peak serum levels. Tissue vascularity is another important consideration. Nasal mucosa, oral mucosa, the scalp, and the skin of the head and neck have a tremendous blood supply. This leads to rapid absorption of local anesthetics into the serum, which may precipitate an adverse reaction. When working in these areas, inject the area more slowly and wait longer between injections. Technique of injection is important for safety reasons and for patient comfort. Always aspirate before injecting. This prevents inadvertent direct intravascular injection of the local anesthetic, which leads to an abrupt rise in serum levels and may precipitate an adverse reaction. Using the smallest needle possible decreases the pain of injection. The author prefers a 22- or 25-gauge needle for the scalp and a 25- or 27-gauge needle for the face and neck. Warming the local anesthetic solution and injecting slowly decrease patient discomfort, since much of the discomfort is produced by rapid distention of tissues by the volume of the local anesthetic solution. Some surgeons use solutions containing more than one local anesthetic to take advantage of the unique properties of each. For example, using a short-acting local anesthetic with a long-acting one can provide prolonged anesthesia without causing toxicity from either agent. The toxicity of the mixture does not exceed the individual toxicity of each agent; toxicity of multiple agents in a solution is not additive. However, if liposomal bupivacaine is admixed with any other local anesthetics, uncontrolled, immediate release of bupivicaine may result

from disruption of the drug's liposomal carrier, potentially resulting in overdose and systemic toxicity. [4]

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