NERVES	INNERVATION	SENSORY	INJECTION	TIPS
Supratrochlear nerve	Trigeminal, V1	Forehead and anterior scalp	Ropivicaine 0.5%, 1-3 mL (medial)	Stay above eyebrow
Supraorbital nerve	Trigeminal, V1	Forehead, anterior scalp and top of head	Ropivicaine 0.5%, 1-3 mL	Start at supraorbital notch
Zygomatico-temporal nerve	Trigeminal, V2	Temple region (1cm lateral and 1cm superior to lateral canthus of the eye above the zygomatic arch)	Ropivicaine 0.5%, 3-5 mL	Inject incrementally (while withdrawing needle through temporalis muscle)
Auriculo-temporal nerve	Trigeminal, V3	Anterior and superior to ear (in temporal region @ pinna superior to the TMJ joint)	Ropivicaine 0.5%, 1-3 mL	Ear should move posteriorly as injection occurs
Greater occipital nerve	Cervical plexus, C2-3	Posterior scalp and occipital area	Ropivicaine 0.5%, 3-5 mL (ensure negative blood aspiration)	Palpate occipital artery and mark prior to induction
Lesser occipital nerve or Posterior Auricular	Cervical plexus, C2-3	A field block behind ear and occipital area	Ropivicaine 0.5%, 3-5 mL	Create a "wall" of local or field block from posterior ear to greater occipital nerve

TABLE 1: **SCALP NERVES, TERMINAL BRANCHES**

Typically, three to five 10 mL syringes are used and filled with local anesthetic. A 25-gauge needle is used for injection. Again, for these nerves, bone is contacted and the needle withdrawn slightly before injection. The skin is cleansed prior to injection with betadine and alcohol solutions. Aseptic technique is used and gloves and a mask are worn. The patient is monitored during the block placement with standard ASA monitors. Most *scalp blocks* are performed under a general anesthetic or a heavy sedation in the operating theatre.

The choice of local anesthetic is crucial to a successful block and adequate anesthesia of the scalp. A long acting local anesthetic is preferred such as ropivicaine or bupivicaine. The goal of the nerve block is to extend the anesthesia into the immediate postoperative period. The concentration of local anesthetic must be considered as well. The nerves must be well anesthetized and therefore a concentrated local anesthetic should be used, such as ropivicaine 0.5% or bupivicaine 0.5%. If a more concentrated local is used, toxicity becomes an issue and is dependent on patient weight and other factors. Several studies have looked at plasma levels of local anesthetic after *scalp blocks* have been performed. For awake crainiotomies, ropivicaine with epinephrine appeared to be safe and effective with respect to plasma levels of ropivicaine in one study (3). Epinephrine is typically added to the solution to decrease local anesthetic absorption and to further prolong the block in a dilution of 1 to 200,000. Typically, at our institution ropivicaine 0.5% with epinephrine 1