

Scalp Block: Landmarks

The scalp block is a regional technique which has utility in both pain management and as an adjunct in the OR. It really shines in neurosurgery where it can anesthetize the scalp and reduce opioid requirements during pinning, scalp incision, and closure; facilitating awake craniotomies and rapid wake-ups.

The most basic form of the scalp block is simply a circumferential ring of local anesthetic injected around the scalp above the eyebrow, ear and the nuchal ridge. However, a more sophisticated approach involves blocking individual nerves and much less anesthetic use. The list below should cover the entire scalp, certain locations may be skipped depending on the planned pin and/incision location. In my research for this keyword I also found several variations, this is just one:

Supraorbital and Supratrochlear Nerve: Inject just **above the supraorbital notch** which is often in line with the pupil when the patient is staring straight forward.

Zygomaticotemporal Nerve: Deep injection on **a line between the lateral portion of the supraorbital margin, and lateral part of the zygomatic arch.** The former can also be palpated as a concave depression lateral to the eye.

Auriculotemporal Nerve: about 1.5cm **anterior to the ear at the level of the tragus**, above the TMJ.

Great Auricular, Greater Occipital, and Lesser Occipital Nerves: Although you can try to identify these using anatomic landmarks, their course is less predictable (other than the great auricular) so I prefer a different technique. Use a long spinal needle to inject a long, large subcutaneous wheal of local anesthetic from the occipital protuberance to the mastoid process, following the nuchal ridge. Then repeat for the other side. To target the individual nerves (assuming the patient read the textbook), you may target **1.5 cm posterior to ear at the level of the tragus; 2/3rds of the way on the line from the mastoid process to the occipital ridge, medial to the occipital artery**; and about **midway on that same line** respectively.

Further Reading:

<https://resources.wfsahq.org/atotw/scalp-block-technique-and-applications/>