**NERVE BLOCKS USED FOR OPTHALMIC SURGERY**

**Auriculopalpebral Nerve Block:**Surgical manipulation of the eye is facilitated by nerve blockade of the eyelids. Auriculopalpebral nerve block can be placed to reduce upper eyelid movement prior to performing a Peterson or retrobulbar block. The auriculopalpebral nerve can be palpated as it crosses the zygomatic arch, roughly 5-6 centimeters behind the supraorbital process. Inject 5 milliliters of 2% lidocaine HCl subcutaneously on the dorsal aspect of the zygomatic arch at this location.

**Peterson Nerve Block:**   
After performing a small local skin block over the intended site of puncture, a 3.8-cm long 14 gauge needle is inserted through the skin as a cannula for introduction of an 18-gauge 9-cm long needle for the nerve block. The cannula is inserted caudal to the junction of the supraorbital process and zygomatic arch and is introduced through the skin. Then, the 18-gauge, 9-cm long needle is introduced through the cannula needle and is directed in a horizontal and slightly dorsal direction until the coronoid process is encountered. The needle is “walked off” the rostral aspect of the coronoid process and advanced in a ventromedial direction along the caudal aspect of the orbit until the needle encounters the bony plate encasing the foramen orbitorotundum. Once the needle is advanced to the foramen, it is advised that the needle be drawn back a few millimeters to reduce the risk of intrameningeal injection. After aspirating to assure the needle is not in the internal maxillary artery, 10-15 milliliters of lidocaine (2%) is deposited, with an additional 5 milliliters of lidocaine deposited as the needle is slowly withdrawn. Mydriasis indicates a successful block.

**4 Point Retrobulbar Nerve Block:**The 4-point retrobulbar block is technically easier and can be done more rapidly as compared with the Peterson eye block. In this technique, an 18 gauge, 9-cm long needle is introduced through the skin on the dorsal, lateral, ventral and medial aspects of the eye, at 12, 3, 6, and 9 o´clock positions, respectively. Introduction of the needle through the conjunctiva should be avoided to reduce the occurrence of ocular contamination. The needle is directed behind the globe using the bony orbit as a guide. When the needle is introduced into retrobulbar sheath, the eye will move slightly with the tug of the needle. After this location is reached and aspiration is performed to assure that the needle is not in a vessel, 5-10 milliliters of lidocaine (2%) is deposited at each site. Mydriasis indicates a successful block.

**Retrobulbar block:**   
An alternative to the 4-point retrobulbar block is the single retrobulbar block (Figure 2). In this technique, the 9-cm long 18-gauge needle is bent into a ½ circle. The needle is inserted immediately ventral to the dorsal orbital rim and directed such that the needle impacts into the bone of the orbit. Then the needle is advanced as it is rotated ventrally in a progressive manner such that the needle remains in close proximity to the bone. After the needle is inserted to the caudal aspect of the eye, 20 ml of 2% lidocaine HCl is administered after aspiration to ensure that the needle is not positioned in a vessel or other fluid structure. Successful deposition of lidocaine causes mild proptosis of the globe.

**Ring Block:**   
Additional local anesthesia of the eyelids is recommended as the Peterson and retrobulbar blocks typically result in incomplete analgesia of the eyelids. Five to ten milliliters lidocaine (2%) is infiltrated subcutaneously 2.5 centimeters from the eyelid margins as a ring block.