

FAILED NEURAXIAL ANESTHESIA FOR C-SECTION: **PREVENTION AND INTRA-OP ALGORITHM**

1. Replace or reposition an epidural catheter if the labor analgesia is inadequate, especially if there is a high possibility of an impending C-section
2. Considerations for patients with a pre-existing labor epidural presenting for C-section:
 - If the labor analgesia has been inadequate, consider a spinal instead of an epidural bolus if time permits
 - If time permits, begin the epidural bolus dose in the patient's room prior to transport to the OR to allow more time for medication set-up
 - If the patient is already in the OR, consider fast-acting epidural medication (3% Nesacaine, see below)
 - To enhance the block, include a short-acting narcotic in the epidural bolus
3. With an epidural, if the pre-incision test is positive*:
 - Ensure that there was enough time for the epidural medication set-up: bupivacaine 20 min; lidocaine 15 min; Nesacaine 10 min
 - If the coverage is unilateral, consider an additional epidural bolus if time permits
 - After these steps if the pre-incision test is still positive:
 - If time is a factor, Induce GA-ETT
 - If time is not a factor, consider doing a spinal, but it must be > 45 minutes after the epidural bolus
4. With a spinal, if the pre-incision test is positive, induce GA-ETT
5. If pre-incision test is negative, but then patient becomes uncomfortable after incision:
 - Temporize with IV Ketamine until delivery
 - To minimize aspiration risk, the ketamine dose should be sub-hypnotic (< 0.5 mg/kg)
 - Ketamine can be supplemented by a small dose of Versed, but avoid narcotic prior to delivery
 - Consider inducing GA-ETT immediately after delivery if pain control is still inadequate
6. 3% Nesacaine provides solid surgical anesthesia in ten minutes. And since it is rapidly metabolized in the bloodstream, the risk of systemic toxicity is very low. This allows for a single rapid bolus. However, only 45-60 minutes of surgical anesthesia can be expected. Therefore, it is imperative that it is followed by an amide anesthetic, e.g. 15 ml of 0.5% bupivacaine 30 minutes after the Nesacaine bolus. Add a narcotic to the bupivacaine if not already given with the Nesacaine

*An unequivocal positive test would be the solicitation of localized sharp pain, preferably without verbalizing to the patient that the test is being performed

