

## ANESTHETICS (Parenteral-Local)

### Accepted

Central neural blocks¾Caudal or lumbar epidural: Bupivacaine (with or without epinephrine) 9, 35, chloroprocaine 4, etidocaine (with or without epinephrine) 5, lidocaine (with or without epinephrine) 12, 16, levobupivacaine 135, and mepivacaine 20, 21 are indicated. Only single-dose vials that do not contain an antimicrobial preservative should be used.

Subarachnoid: Bupivacaine and dextrose 2, lidocaine and dextrose 6, 22, procaine \*, and tetracaine (with or without dextrose) 98 are indicated. Commercially available products intended specifically for subarachnoid administration contain no antimicrobial preservatives 98.

Solutions and diluents containing antimicrobial preservatives are not to be injected into the subarachnoid space and should not be used when preparing injections for administration via this route 21.

Dental infiltration or nerve block¾Articaine with epinephrine 48, 137; bupivacaine and epinephrine 9; chloroprocaine (with or without added epinephrine) 4; etidocaine and epinephrine 5; lidocaine (with or without epinephrine) 12, 91, 103; mepivacaine (with or without levonordefrin) 20, 21; prilocaine (with or without epinephrine) 7, 38 are indicated. Unless specifically contraindicated, a vasoconstrictor-containing solution is preferred.

Intravenous regional anesthesia (Bier block) \*¾[Chloroprocaine], lidocaine 12, and [mepivacaine] are indicated.

Local infiltration¾Bupivacaine (with or without epinephrine) 9, chloroprocaine 4, etidocaine (with or without epinephrine 5), levobupivacaine 135, lidocaine (with or without epinephrine) 12, mepivacaine 20, 21, and procaine 11 are indicated.

Peripheral nerve block¾Bupivacaine (with or without epinephrine) 9, chloroprocaine 4, etidocaine (with or without epinephrine) 5, levobupivacaine 135 lidocaine (with or without epinephrine) 12, mepivacaine 20, 21, and procaine 11 are indicated.

Retrobulbar block: Bupivacaine 9, etidocaine 5, lidocaine 23, and [procaine] \* are indicated.

Sympathetic block¾Bupivacaine (with or without epinephrine) 9 and lidocaine (with or without epinephrine) 12 are indicated.

Transtracheal¾Lidocaine 23, [mepivacaine] \*, and [tetracaine] \* are indicated.

### Unaccepted

For paracervical administration¾Use of bupivacaine is not recommended for nonobstetrical procedures because of insufficient data concerning safety and dosage. Use of bupivacaine is not recommended in obstetrical procedures because such use has resulted in fetal bradycardia and death 35.

Solutions containing a vasoconstrictor should not be used for intravenous regional anesthesia (Bier block). Also, bupivacaine and levobupivacaine are not recommended for intravenous regional anesthesia 35, 135.

Bupivacaine hydrochloride: 342.91 72

Mechanism of action/Effect:

Local anesthetics¼ Local anesthetics block both the initiation and conduction of nerve impulses by decreasing the neuronal membrane's permeability to sodium ions, perhaps by attaching to a site on the sodium channel. This reversibly stabilizes the membrane and inhibits depolarization, resulting in the failure of a propagated action potential and subsequent conduction blockade 57.

The concentration of drug needed to block large nerve trunks is greater than that needed for smaller peripheral nerves.

Vasoconstrictors¼ Act on alpha-adrenergic receptors in the vasculature of the skin, mucous membranes, conjunctiva, and viscera to produce vasoconstriction, thereby decreasing blood flow in the area of injection. The resultant reduction in the rate of local clearance of the local anesthetic prolongs the duration of action, lowers the peak serum concentration, decreases the risk of systemic toxicity, and increases the frequency of complete conduction blocks with low concentrations of the local anesthetic. Vasoconstrictors may also reduce bleeding when injected at the site of surgery. 24

Other actions/effects:

Precautions to Consider

Cross-sensitivity and/or related problems

Patients sensitive to para-aminobenzoic acid (PABA) or parabens may be sensitive to procaine, chlorprocaine, or tetracaine also 4.

They may also be sensitive to other local anesthetic solutions containing parabens as preservatives 4.

Patients sensitive to one ester-type local anesthetic may be sensitive to other ester-type local anesthetics also 4.

Patients sensitive to one amide-type local anesthetic rarely may be sensitive to other amide-type local anesthetics also 5, 20, 21, 35.

Cross-sensitivity between ester-type local anesthetics and amide-type local anesthetics has not been reported 23.

Carcinogenicity