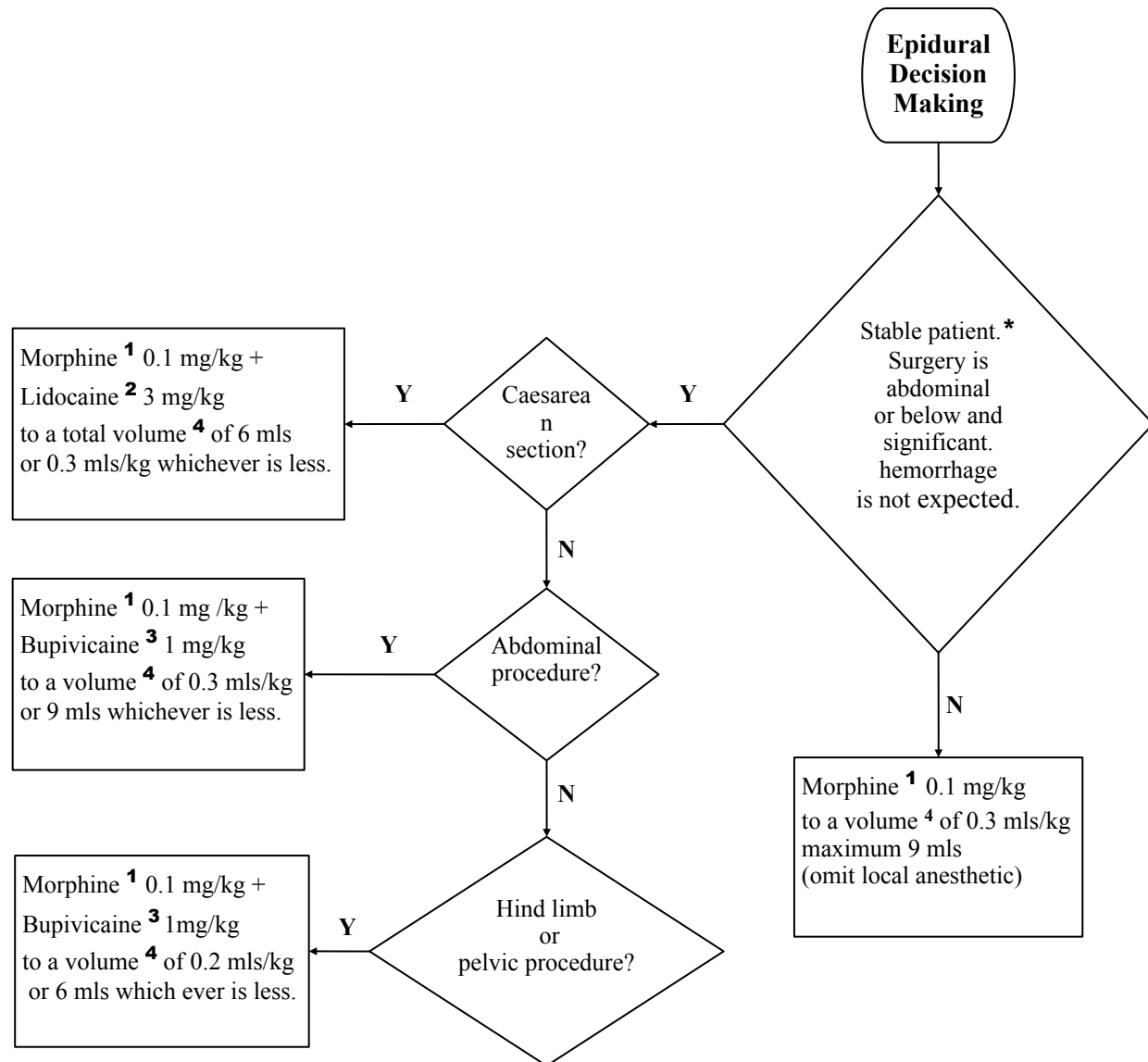
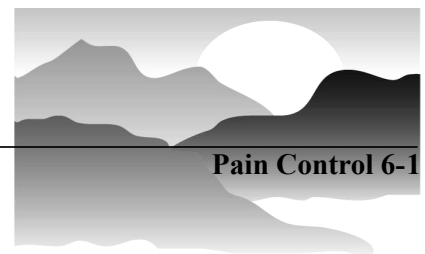


Epidural Analgesia Flowchart



*** Normal vital signs, circulating blood volume with hematocrit above 30%.**

1 Morphine preservative free single dose vial
2 Lidocaine 2% single dose vial no epinephrine
3 Bupivacaine 0.5% single dose vial no epinephrine
4 normal saline single dose vial
 For dose calculations *see pages 6-32 to 6-40*



Epidural Morphine Analgesia

Indications:

Intra and post-operative analgesia for pelvic, hind limb, abdominal, thoracic and forelimb surgery

Benefits:

- Reduces necessary dose of inhalant anesthetic
- Helps maintain a steady plane of anesthesia
- Provides post-operative analgesia lasting up to 24 hours without the CNS depression
- Provides post-operative analgesia without ataxia or motor weakness

Disadvantages:

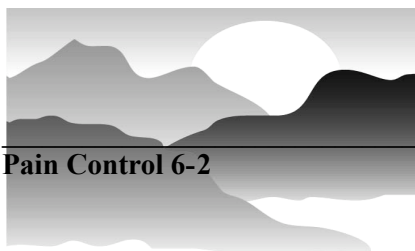
- Insufficient for surgical analgesia in conscious patients
- Supplemental systemic post-operative analgesia may be necessary
- Slow onset of action (30 to 60 minutes) therefore best administered immediately after anesthetic induction
- When administered post-surgically, analgesia is less effective **NOTE**
- Possible delayed CNS depression and respiratory depression 12 to 18 hours post epidural (rare)
- Urinary retention in the first 24 hours post-epidural injection (rare)

Contraindications:

- Coagulopathy
- Sepsis
- Hind limb neurological impairment
- Lumbo-sacral instability or arthritic changes

Dose:

- 0.1 mg/kg in 0.3 cc volume
- Preservative free, sterile, single use vials
- Maximum volume 6 mls for Caesarian section otherwise 9 mls



CALCULATING EPIDURAL DRUG DOSES- Morphine

In Canada use morphine 10-mg/cc single use ampoule with or without preservative:

$$\frac{\text{Body weight (kg)} \times 0.1 \text{ mg/kg}}{10 \text{ mg/ml (Canada)}} = \text{_____ cc morphine (A)}$$

$$\text{Total drug volume} = \text{_____ cc (A)}$$

In USA use single use ampoule of preservative free morphine 1 mg/ml:

$$\frac{\text{Body weight (kg)} \times 0.1 \text{ mg/kg}}{1 \text{ mg/ml (USA)}} = \text{_____ cc morphine (A)}$$

$$\text{Total drug volume} = \text{_____ cc (A)}$$

If epidural block is intended for pelvic or hind leg surgery, do the following calculations to adjust total epidural volume:

$$\text{Body weight (kg)} \times 0.2 \text{ cc/kg} = \text{Total epidural volume} = \text{_____ cc's (C)}$$

$$\text{(C) Minus (A)} = \text{cc's of sterile saline to be added} = \text{_____ cc's (D)}$$

D + A should equal C

If epidural block is intended for laparotomy, chest or forelimb surgery, adjust total epidural volume:

$$\text{Body weight (kg)} \times 0.3 \text{ cc/kg} = \text{Total epidural volume} = \text{_____ cc (C)}$$

$$\text{(C) Minus (A)} = \text{cc's of sterile saline to be added} = \text{_____ cc (D)}$$

D + A should equal C

Do not exceed 6 cc's total volume for Caesarian section otherwise do not exceed 9 cc's total volume.

(Laminate and re-use this worksheet)

