

PROGENY

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CIRCUMCISION WITHOUT PAIN

In March of 1999, the American Academy of Pediatrics issued a revised policy statement on neonatal circumcision. This came in response to considerable new evidence showing that newborns circumcised without analgesia experience pain and stress measured by changes in heart rate, blood pressure, oxygen saturation, and cortisol levels. Other studies suggested that the circumcision experience may cause infants to respond more strongly to pain of future immunizations than those who are uncircumcised. The policy states that analgesia has been found to be safe and effective in reducing the pain associated with circumcision, and “procedural analgesia should be provided.”

With this statement, effective pain management became the standard of care for newborn circumcision. We know how to do this, and we have a responsibility to our newborn patients to make circumcision as stress-free and painless as possible. The following interventions can make this happen.

PHARMACOLOGIC INTERVENTIONS

- Acetaminophen: administer 10-15mg/Kg PO one hour prior to the circumcision with continued dosing every 4-6 hours for the next 24 hours.
- Dorsile Penile Nerve Block: administer DPNB with buffered Lidocaine no less than 5 minutes before the circumcision using a 30-gauge needle, injecting subcutaneously below Buck’s fascia at the 10 and 2 o’clock positions, 0.5 to 1cm distal to the base of the penis.
- Subcutaneous Ring Block: administer SQRB with buffered Lidocaine, injecting subcutaneously above Buck’s fascia, circumferentially near the base of the penis.
- Eutectic Mixture of Local Anesthetic: apply EMLA cream to the skin of the penis at least 60 minutes before the circumcision.

When administered around-the-clock after circumcision, Acetaminophen has been shown to decrease the pain of tissue injury. The most commonly used anesthetic for both of these penile nerve blocks is a 0.5% or 1% Lidocaine solution without epinephrine. In adults and children, buffering of Lidocaine with Sodium Bicarbonate has been proven to decrease pain at the injection site. Using a slow injection speed, a small-gauge needle, and warmed solution may also be of benefit in decreasing the pain of Lidocaine injection. EMLA has been shown to be effective in decreasing the pain of needle penetration during the

penile nerve block, but in the absence of a block it does not relieve deeper tissue pain with the release of adhesions or excision of the foreskin. The obvious disadvantage of EMLA cream is the length of time required for it to work.

NON PHARMACOLOGIC INTERVENTIONS

- Sucrose Pacifier: mix 1 packet of table sugar in 10ml of sterile water to prepare a 24% sucrose solution. Dip the pacifier in the solution as needed to stimulate sucking during the procedure.
- Swaddling: swaddle the newborn's upper body snugly with blankets, with the legs extended and restrained on the circumcision board.
- Padded Circumcision Restraint Board: use blankets to pad entire surface of the restraining board.
- Feeding: allow the infant to breast or bottle feed before the circumcision if hunger cues are present.

Sweet-tasting oral solutions have been widely studied as analgesics for painful procedures in the newborn period. Sucrose seems to provide the most consistent analgesia. When combined with sucking, the newborn's primary coping method, the infant experiences significant pain relief. Swaddling decreases movement while providing warmth and containment. In a study of preterm infants undergoing heel stick, swaddling during and after the procedure was found to decrease sleep disruption and crying time. An infant's natural state is one of flexion. A circumcision board forces the infant into an unnatural state of immobilized extension on cold, hard plastic. Padding this surface, as well as swaddling, will provide some comfort to the infant being restrained. In a study of 80 infants circumcised with adequate anesthesia and analgesia and "no forced fasting period preoperatively," there were no negative sequelae reported. Withholding food before the circumcision only adds to the infant's discomfort.

ENVIRONMENTAL INTERVENTIONS

- Dimmed Lighting: shield the infant's eyes from exposure to direct light with a blanket or mask.
- Soft Music: replace excessive noise with soft music or lullabies played at the bedside during the circumcision.

Direct lighting and excessive noise during invasive procedures are associated with stress and discomfort for the newborn. Studies have shown that newborns have decreased heart rates and body movements when their eyes are covered. Music therapy is a proven method of distraction for painful procedures, and it may provide some positive sensory stimulation for the infant during circumcision.

A Final Note

In my travels across Iowa, I've found that most hospitals are using some combination of these interventions for pain management during circumcision. Only a few are not. On a recent trip, I spoke with two nurses who were pleasantly surprised when their newborn patients slept through their circumcisions. Bravo! I encourage you to keep advocating for those babies. They deserve the very best care we have to offer. *(References available on request.)*

FOR QUESTIONS OR COMMENTS: Contact Kathy Papke, R.N. or Penny Plock, R.N.C, Statewide Perinatal Care Program, Department of Pediatrics, 200 Hawkins Drive, Iowa City, Iowa 52242-1083. Call (319) 356-2637 or FAX 319-353-8861.