



Controlling Pain and Discomfort in BPD

Everyone who cares for babies wants to make sure each baby is comfortable during their NICU stay. Babies with BPD often need procedures or surgeries, and some need a ventilator for a while – all of which can cause discomfort.

NICU staff pay close attention to pain control for babies during procedures such as repositioning, lab draws, heel sticks, etc. Babies can be given a lot of comfort through non-medical methods like using a gentle voice, holding or swaddling them the right way during a procedure, and most importantly, having parents/caregivers present (this will help reassure your baby). Drops of sucrose (sugar water) can also be very helpful. Developmental therapies (positioning, swaddling, range of motion exercises, etc.) can help babies feel more comfortable and develop skills to soothe themselves.

If you have ideas for how to keep your baby more comfortable during routine procedures, please share your ideas with your nurses and physicians.

We pay special attention to the comfort of babies on ventilators who are breathing through an endotracheal tube (tube placed through the mouth into the trachea, or windpipe), or breathing through a tracheostomy (tube placed directly into the trachea, or windpipe, through an opening in the neck).

- When very preterm, most babies can comfortably breathe with a ventilator, and do not need pain medications or sedating medications. You may see some of them sucking on the tube, sleeping, or looking around while the ventilator is helping them breathe.
- Older babies who are still needing a ventilator may become agitated and uncomfortable as they want to spend more time awake and try to breathe more on their own. Because their lungs are not strong enough yet, babies with severe BPD often struggle with staying comfortable or medically safe through simple tasks like diaper changes. They may need more support from the ventilator or more sedation during those times. Developmental therapies definitely help, but often times sedating medications are needed.





PATIENT AND FAMILY EDUCATION

There are many different medications used for pain control and sedation in the NICU.

These medications include:

- Opioids (like morphine, which is often used to decrease pain and shortness of breath)
- Benzodiazepines (like Midazolam or Lorazepam, used for sedation)
- Dexmedetomidine (used for pain control, and to decrease agitation)
- And others

The sicker the baby is from their BPD, the more likely they would require such medications. These medications may be used to treat pain, to help the ventilator deliver breaths more efficiently, or to help babies with sick hearts and pulmonary hypertension to relax and not struggle. A stable intravenous (IV) or a central line is often needed to give these medications. In most severe cases, babies need almost constant deep sedation (meaning they are asleep all the time) in order to survive, as their lungs and heart are too sick to tolerate even mild agitation. For these infants, multiple medications to help with sedation are needed regularly.

Although necessary in these circumstances, all sedatives have the potential to negatively affect a baby's brain.

- Research shows that the more pain medications and sedatives a baby gets, the higher the chance of developmental problems.
- At the same time, babies with BPD often have developmental problems unrelated to sedation, with more delays noted in those who need the ventilator the longest.

For babies with BPD, we try to balance the need for a ventilator, use of sedatives, developmental health, and ongoing survival.

Your medical team takes great care in prescribing, adjusting, weaning, and discontinuing these medications so that your baby can grow and develop to their fullest potential.