Comfort measures

Comfort measures include any intervention that maximises infants’ potential neurodevelopment \(^1\) and provides comfort. This is achieved by facilitating and/or modifying the infant’s environment with the aim to minimise stress and pain and to promote organised behaviour. Each comfort intervention may be utilised singularly or in combination. Carers must be skilled in the assessment of infant cues and have the knowledge to appropriately respond to them \(^1\).

Methods may vary and differ for the term and preterm infant and also for the individual infant as she or he matures at different rates. The infant’s state of health also needs to be assessed and incorporated into planning each comfort measure intervention.

The provision of comfort measures can vary from the use of bedding to nest infants to appropriate use of sucrose for relief of short procedural pain. Education of carers in assessment and response to infant cues is central to the promotion of comfort. Infant cues can be met with simple response tasks to settle the infant and minimise pain and discomfort and may include the techniques below.

**Swaddling**

**Method**

Swaddling is an age-old technique used to settle infants for a variety of reasons by simulating an *in utero* environment. If stable, infants in cots and humidicribs may be swaddled as well as those being cuddled. The intervention of swaddling has been described as able to give “...*proprioceptive input and kinesthetic stimulation, support hand-to-mouth manoeuvres, and facilitate motor organisation.*” \(^2\) Infants who are swaddled in humidicribs will require adjustment of the neutral thermal environment.

**Implementation**

Prior to (if able), or immediately after a painful or unsettling procedure the infant is wrapped firmly in a blanket to provide flexion of both the upper and lower limbs, in either supine, prone or lateral position (remember SIDS guidelines!) or whilst the infant is being held \(^3\). The baby’s hands are available to the mouth to encourage self-settling (Figure 1) \(^2\).

**Facilitated Tucking**

**Method**

Facilitated tucking is a variation of swaddling whereby the infant’s limbs are placed in a flexed, midline position and maintained without the use of blankets \(^4\). Containment has been shown to assist infants to “...*cope with minor pain and to reduce resultant physiological and behavioural instability*...” \(^4\). Use of facilitated tucking and containment reduces pain during procedures such as heel pricks and assists the infant to self-regulate \(^5\). It may take up to five minutes to achieve settling when using this technique.
**Implementation**

With the infant in either a side lying or supine position, flex the infants limbs into a midline position and hold and contain the infants limbs with your hands (see Figure 2), before, during and for a short time after a painful/unsettling procedure. Employing the use of bunting (blanket rolls or purchased aids) to provide boundaries for the infant promotes positive neuro-development. Swaddling or facilitated tucking may be useful for the older infant to give a sense of security and promote settled states.

**Outcomes**

Swaddling and facilitated tucking both allow the infant to be in a maximised comfort state in response to painful/unsettling procedures.

**Music Therapy**

**Method**

Music therapy has been used in a variety of hospital settings, predominantly adult care units to “...promote positive changes in behaviour”. Music within a NICU must be therapeutic to the neonate and reflective of the safe, nurturing **in utero** environment. Rock music may be therapeutic to the staff, but is not likely to assist the sick neonate. Radios/music should not be played for the nurse’s benefit.

Some infants are vulnerable to hearing loss and music therapy for such infants must be carefully considered. Music therapy needs to be incorporated with a noise reduction campaign within the NICU.

**Implementation**

- Consider all methodology included in the **Macro environment** protocol.
- Play music with a low pitch, medium rhythm and tempo of 60 beats/min.
- Choose a piece of music that flows continuously to provide a soothing and calming effect (e.g. *Transitions, Music for Dreaming*).

**Outcome**

All music played will promote settling and development for the infant.

**Identification of pain cues**

**Method**

Pain and discomfort can have negative impact on growth and development and can result in adverse outcomes. The timely identification of pain cues enables the clinician to intervene early and implement strategies to minimise stress, discomfort and pain. Minimising and reducing pain can be achieved by non-pharmacological and/or pharmacological pain methods. Several tools are available to assess pain, however tools that utilise facial expressions appear to be the most validated.

**Implementation**

Assess pain cues, for example by facial expressions, leg pulling and disorganised state, then choose an appropriate intervention for the situation, gestational age and painful event. The infant may require facilitated tucking, dummy (pacifier) to suck, repositioning, a modulated or modified environment or pharmacological intervention.

**Outcome**

Following individualised assessment of pain and subsequent intervention the infant will be in a settled and comfortable state, be free of pain, and in a non-stressed state.

**Dummies (Pacifiers)**

Using dummies decreases crying in full term infants, produces less frequent state changes and promotes state organisation. In preterm infants non-nutritive sucking increases quiet
sleep. In both preterm and term infants non-nutritive sucking has shown to reduce activity and pain.\textsuperscript{13,14,15}

Although it is generally accepted that dummies calm and comfort most infants it has not been established when best to utilise this intervention, particularly for the preterm infant.\textsuperscript{14} It is possible that if a dummy is sucked during a painful procedure the infant may later associate sucking with pain.\textsuperscript{16} Bearing this in mind it may be beneficial to offer a dummy following a painful procedure where alternative comfort measures such as oral sucrose have been used during the procedure (see Sucrose protocol). The dummy may be used for the unsettled infant for procedures causing discomfort such as during eye examination. For information on non-nutritive sucking see Non-nutritive sucking protocol.

**Implementation**

Offer a dummy to the infant in response to discomfort cue after ensuring that this is the appropriate intervention. If the procedure is painful utilise alternate comfort measure and at completion of intervention offer dummy to settle infant.

**Outcome**

Settled infant during and following an uncomfortable or painful procedure.

**Modified Environment**

An environment modified to suit an infant may enhance their ability to cope with uncomfortable procedures, increase sleep states and reduce active states.\textsuperscript{17} Furthermore, appropriately modified NICU environments can reduce stress and discomfort in sick and immature infants - see Macro-environment protocol.

**Skin to skin contact**

Skin to skin contact (kangaroo care) has shown to improve an infant’s ability to maintain his/her autonomic stability in the presence of environmental disturbances, reduce parental and infant stress and improve motor regulation.\textsuperscript{18} Infant comfort may be gained by utilising skin to skin contact - see Skin to skin contact protocol.

**Developmental positioning**

Altering the position of an infant prone, supine or side-lying may “at least reduce the influence of their postural pathology”\textsuperscript{19} that occurs due to the effects of gravity and their environment.

Positioning includes both how and why the infant is lying. An assessment of the infant’s condition prior to position change is paramount. Positioning plays a large part in the neurodevelopment of the infant.\textsuperscript{20} Altering an infant’s position has been shown in some instances to be a painful procedure and assessment of cues before and after every intervention is required. Therefore an infant’s comfort may be supported by using various positioning techniques – see Developmental positioning protocol.

**Positive touch**.

- see Positive touch protocol.

**Cue based care**

- see Cue based care protocol.

**Non-nutritive sucking**

- see Non-nutritive sucking protocol.
References


