## Purpose

The caregiver’s task is to assess and evaluate infant autonomic, motoric, and state functioning to determine appropriate individual interventions including timing and duration. It is also important to identify and reduce stressful stimuli in the infant's environment.

The Synactive Theory of Development is based on the premise that behaviour is the infant's main channel of communication. Behaviour can be classified as exploratory/approaching or withdrawing / avoidance which provides information about the tolerance of the stimuli. Therefore, an integral part of nursing is to individualize care based on assessment of infant cues and responses in an effort to support stability, organization, and development. The infant is able to provide behavioural indications of strengths and abilities, vulnerabilities, and thresholds to disorganization but they are only helpful if caregivers acknowledge, assess, and interpret them, to incorporate the principle that interactions should be controlled by the infant, not the caregiver. Care giving based on infant cues is integral to providing developmentally appropriate care.

## Policy Statement

A principle of developmental theory is that a human newborn is a socially competent and active partner in a feedback system with the caregiver. The infant’s adaptive task is to synchronize their physiologic, motor, and state organization systems internally and with external environmental events. Stimuli that are synchronous will support internal integration and development while stimuli that are ill-timed might disrupt internal functioning. Interventions associated with high levels of sensory input often experienced by infants in the NICU may result in life-long maladaptive functioning and behaviour.

## Applicability

All Covenant Health Neonatal Nursery staff.

## Procedure

- Care is individualized based on individualized assessments.
- Interventions are evaluated for necessity and appropriateness for each infant.
- Appropriate clusters of care timed in accordance with sleep-wake cycles, state of alertness, medical needs, and competence of the infant. Clustered care is not equivalent to performing all care activities in blocks without regard to tolerance.
- Infant cues determine the timing, intensity, and duration of all care.
- Care activities are coordinated with family schedules to support integration of the infant into the family unit and to foster their involvement and competence.
- For all procedures, a second person is available to help contain and stabilize the infant throughout the procedure to decrease potential risks and improve comfort and support for the infant. Support is provided with manual containment or loose swaddling to maintain the extremities in a flexed position and near midline.
### Procedure

- Coordinate assessments between all health care providers to minimize disruptions.
- Observe before any interaction to understand current state and behaviour.
- Introduce care gradually with gentle arousal, starting with a soft voice introduction, and gentle touch.
- Infants are handled gently without sudden changes in movement.
- Parents are the infant’s primary care givers. Encourage them to provide non-medical care using gentle touch and containment. Identify approach and avoidance cues for them.
- Pace care activities. Balance stimuli from care giver and environment with infant’s current level of alertness and competence. Allow for rest and recovery between manipulations. Be vigilant for avoidance/withdrawal behaviour to prevent elicitation of maladaptive behaviours.
- If the infant exhibits signs of discomfort and disorganization, provide non-pharmacologic comfort measures such as skin to skin, loose swaddling, non-nutritive sucking, oral sucrose, oral mother’s milk, containment, and/or decreased environmental stimuli.
- During necessary painful procedures, it is essential to provide adequate pain relief.
- Initiate non-nutritive sucking before the onset of and during feeds.

### Table: Cues

<table>
<thead>
<tr>
<th>Subsystem</th>
<th>Exploratory / Approaching</th>
<th>Avoidance / Withdrawal</th>
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</thead>
<tbody>
<tr>
<td>Autonomic &amp; Visceral</td>
<td>Regular, smooth respirations</td>
<td>Apnea, periodic breathing</td>
</tr>
<tr>
<td>Respiratory patterns</td>
<td>Respiratory rate 40-60</td>
<td>Slow or fast respirations</td>
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<tr>
<td>Colour</td>
<td>Pink Colour</td>
<td>Cyanosis, pallor, colour fluctuations</td>
</tr>
<tr>
<td>Changes in heart rate</td>
<td>Sp02 88-96%</td>
<td>Desaturations</td>
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<tr>
<td>Visceral Responses</td>
<td>Heart rate 120-160</td>
<td>HR accelerations &amp; decelerations</td>
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<tr>
<td></td>
<td>Straining</td>
<td>Bradycardia, or tachycardia</td>
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<tr>
<td>Motoric</td>
<td>Eyebrow raising</td>
<td>Gagging, spitting or hiccoughing</td>
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<tr>
<td>Tone of face &amp; extremities</td>
<td>Forward shaping (Ooh face)</td>
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<tr>
<td>Truncal tone</td>
<td>Suck – searching</td>
<td></td>
</tr>
<tr>
<td>Posture</td>
<td>Sucking</td>
<td></td>
</tr>
<tr>
<td>Movement patterns</td>
<td>Hand &amp; foot clapping</td>
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<td></td>
<td>Hand to mouth effort</td>
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<td></td>
<td>Grasping, holding on</td>
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<td></td>
<td>Smooth, well-regulated movements</td>
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<td></td>
<td>Absence of tremors startles &amp; twitches.</td>
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<tr>
<td></td>
<td>Active tone</td>
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<tr>
<td></td>
<td>Absence of flaccidity</td>
<td></td>
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<tr>
<td></td>
<td>Flexion</td>
<td></td>
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<tr>
<td>State</td>
<td>Well-defined awake and sleep states</td>
<td>Diffuse sleep or wake states with</td>
</tr>
<tr>
<td>Range of states</td>
<td>State stability</td>
<td>whimpering, facial twitches, or</td>
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<tr>
<td>Robustness &amp; modulation of state</td>
<td>Smooth state transition</td>
<td>discharge smiling.</td>
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<tr>
<td>Patterns of transition</td>
<td>Robust crying</td>
<td>Abrupt transitions between states</td>
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<tr>
<td>Attention &amp; Interaction</td>
<td>Successful self-consoling and self-quieting</td>
<td>Stress signs during state transition</td>
</tr>
<tr>
<td></td>
<td>Focused, shiny-eyed alertness</td>
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</table>
Definitions

Handling- Any touch, movement, or care giving activity requiring contact, such as medical procedures, diapering, dressing, etc.

Containment – Providing gentle boundaries to limit movement with supports or cupping of body with hands e.g. cupping infant’s head and buttocks with hands.

Extension – Unbending movement around a joint that increases the angle between ends, arching.

Facilitated Tuck – Using hands to hold the infant in a tucked position with extremities in flexion.

Flexion – Decreasing the angle between the limbs and/or body. Extremities bending toward trunk, head coming forward, trunk curves forward.

Hand Clasping - grasping one hand with the other.

Retraction – Shoulders go back, usually with flexed arms, fisted hands.

Swaddling – Loose arrangement with a blanket that keeps limbs midline and maintains flexion.

Splayed fingers – Opening of hands and spreading fingers.

Stop signs – Hand on face, arm extensions as if to signal “stop”.

State stability – Stable temperature, heart rate, colour, respirations & oxygenation with good muscle tone in a flexed position with smooth movements.

Supporting Policies

Developmental Care
Lighting
Positioning
Skin-to-Skin
Sound Recommendations

References


References


Revisions

October 2012
November 2015
Signing

Original signed

GAIL CAMERON
SENIOR DIRECTOR OPERATIONS
WOMEN’S & CHILD HEALTH
COVENANT HEALTH
GREY NUNS & MISERCORDIA HOSPITALS

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