Alberta Health Services

GUIDELINE

TITLE
DEVELOPMENTAL CARE

SCOPE	DOCUMENT #
Provincial: Neonatal Intensive Care Units	HCS-203-01
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Vice President, Research, Innovation & Analytics	April 24, 2017
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Newborn Standing Committee, Maternal Newborn Child & Youth Strategic Clinical Network (MNCY SCN)	April 25, 2017
PARENT DOCUMENT TITLE, TYPE AND NUMBER	**SCHEDULED REVIEW DATE**
Not applicable	April 24, 2020

NOTE: The first appearance of terms in bold in the body of this document (except titles) are defined terms – please refer to the Definitions section.

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OBJECTIVES

- To provide consistent, appropriate, individualized care to promote stability, organizational and physiological development of infants in Alberta Health Services (AHS) Neonatal Intensive Care Units (NICU).
- To describe individualized care of infants based on assessment of an infant's behavioural cues and responses.

PRINCIPLES

Developmental care supports each infant's adaptation to extrauterine life, protects the developing brain through environmental modifications and is the basis for individualized, flexible and hands-on developmentally appropriate care.

An infant's adaptive task is to synchronize and integrate the physiological, motor and state organization systems with internal and external environmental stimuli.

Given that behaviour is the infant's main channel of communication, exploratory or approaching behaviours identify internal integration and stimuli tolerance while withdrawal or avoidance behaviours indicate disruption of internal integration and stimuli intolerance.

All infants in NICU benefit from developmental care, as they do not experience the usual environment of physical proximity to their mothers, which supports brain development and maturation.

APPLICABILITY

Compliance with this document is required by all Alberta Health Services employees, members of the medical and midwifery staffs, Students, Volunteers, and other persons acting on behalf of Alberta Health Services (including contracted service providers as necessary), working in Neonatal Intensive Care Units (NICU).

ELEMENTS

1. Developmental Care Practices

1.1 Developmental care shall be based on individualized assessment.

a) Before any interaction, observe the infant to attempt to understand the infant's current state and behaviour (see Appendix A: *Infant Behavioral Cues of Physiological Systems*).

1.2 Time, intensity and duration of developmental care shall be based on each infant's behaviour and current state.

a) Developmental care should be appropriately clustered in accordance with an infant's sleep-wake cycles, state of alertness, medical needs and organizational competence.

b) The **health care provider**'s interventions shall be evaluated for necessity and appropriateness.

1.3 Developmental care should be coordinated to minimize disruptions for an infant.

a) **Health care professionals** shall observe for avoidance or withdrawal behaviours prior to initiating all care activities (see Appendix A: *Infant Behavioural Cues of Physiological Systems*).

b) Rest and recovery shall be allowed between all care activities.

c) Assessment and care between health care professionals should be coordinated to minimize disruptions to the infant.

1.4 Care shall be initiated gradually, beginning with a soft voice introduction and gentle touch with hands.

a) Infants shall be handled gently without sudden changes in movement. Using hands for containment, supporting and cupping of the body may help to limit movement, to provide gentle boundaries to limit movement with supports or cupping of body with hands.

1.5 Non-nutritive sucking should be initiated as per infant's cues before the onset of and during non-nipple feeds.

1.6 During all clinical procedures, an additional health care professional or **parent** shall be available, whose role is to support the infant with containment or swaddling of the extremities in flexed positions and near midline.

1.7 Appropriate pain control shall be provided prior to any painful procedures.

1.8 If an infant shows signs of discomfort and/or disorganization or is to have a stressful procedure, comfort measures shall be provided such as:

a) swaddling;

b) non-nutritive sucking;

c) oral sucrose;

d) oral mother's milk;

e) containment; and

f) reduced environmental stimuli.

2. Modification of the Care Environment

2.1 The care environment shall be modified, as possible, to minimize physiological stress of an infant and promote stability.

2.2 Aspects of the care environment that should be modified include:

a) lighting as per the AHS *Environmental Lighting Control* Guideline;

b) noise as per the AHS *Environmental Noise Control* Guideline;

c) positioning as per the AHS *Infant Positioning for Neonatal Care* Protocol;

d) care practices; and/or

e) sensory stimulation.

3. Family Involvement

3.1 Parent(s) shall be recognized as the infant's consistent primary caregiver(s) and therefore, should be encouraged to be an integral part of the multidisciplinary care team.

3.2 **Families** should be educated and empowered to nurture and support an infant's development.

a) Care activities should be coordinated with a family's schedule to support integration of the infant into the family unit and to foster the family's involvement and competence.

b) Families to the extent allowed by parents, should be encouraged to provide non-medical care using gentle touch and containment.

3.3 Families should be taught:

a) typical engagement-withdrawal cues of the infant; and

b) appropriate sensory stimulation.

3.4 Consistency of health care providers should be promoted to provide continuity of care for infants, parent(s) and their families.

DEFINITIONS

Family(-ies) means one or more individuals identified by the patient as an important support, and who the patient wishes to be included in any encounters with the health care system, including, but not limited to, family members, legal guardians, friends and informal caregivers.

Health care professional means an individual who is a member of a regulated health discipline, as defined by the *Health Disciplines Act* (Alberta) or the *Health Professions Act* (Alberta), and who practices within scope and role.

Health care provider means any person who provides goods or services to a patient, inclusive of health care professionals, staff, students, volunteers and other persons acting on behalf or in conjunction with Alberta Health Services.

Parent means the adult guardian of a child, with the legal authority to make decisions on behalf of the minor, in accordance with the *Family Law Act* (Alberta).

REFERENCES

- Appendix A: *Infant Behavioural Cues of Physiological Systems*
- Alberta Health Services Governance Documents:
  - *Environmental Lighting Control* Guideline (HCS-203-02)
  - *Environmental Noise Control* Guideline (HCS-203-03)
  - *Infant Positioning for Neonatal Care* Protocol (#PS-27-01)

VERSION HISTORY

Date	Action Taken
April 25, 2017	Revised

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APPENDIX A

Infant Behavioural Cues of Physiological Systems

Physiological System	Infant Behavioral Cues	
	Engagement	**Avoidance / Withdrawal**
Autonomic & Visceral Respiratory patterns Colour Changes in heart rate Visceral responses	Regular, smooth respirations Respiratory rate 40 to 60 Pink colour Sp02 88 to 96% Heart rate 120 to160 Straining	Apnea, periodic breathing Slow or fast respirations Cyanosis, pallor, colour fluctuations Oxygen desaturations Heart rate accelerations & decelerations Bradycardia or tachycardia Gagging, spitting or hiccoughing
Motoric Tone of face & extremities Truncal tone Posture Movement patterns	Eyebrow raising Forward shaping (Ooh face) Suck - searching Sucking Hand & foot clasping Hand to mouth effort Grasping, holding on Smooth, well-regulated movements Active tone Absence of flaccidity Flexion	Grimacing Frequent tongue thrusts Yawning & sneezing Floating eye movements Visual averting Extending arms to side Splayed fingers Frequent fisting Arm & leg extensions Turning away Arching Tremors, startles & twitching Grunting, gasps & sighs Extension & extensor movements Flaccidity Hypertonicity Protective maneuvers/“stop” signs Frantic, diffuse activity
State Range of states Robustness & modulation of state Patterns of transition Attention & Interaction	Well-defined awake and sleep states State stability Smooth transition between states Robust crying Successful self-consoling and self-quieting Focused, shiny-eyed alertness	Diffuse sleep or awake states with whimpering, facial twitches or discharge smiling Abrupt transitions between states Signs of stress during state transition

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