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NEONATAL INTENSIVE CARE UNIT CAREGIVER BEHAVIOR CHECKLIST (NICU-CBC)

Measuring Fidelity of Developmental Supportive Care Practices

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Description: The *Neonatal Intensive Care Unit Caregiver Behavior Checklist* (NICU-CBC) is designed to record the application of developmentally supportive care (DSC) practices by NICU personnel during routine care interaction as a measure of fidelity and quality improvement. The NICU-CBC includes individual sets of Checklists representing five core measures of DSC: (1) protective sleep; (2) activities of daily living; (3) pain and stress; (4) healing environment; and (5) family-centered care. The *Activities of Daily Living* and *Healing Environment* core measures include multiple subsets of checklists. Checklists are listed in Table 1.

Table 1: Neonatal Intensive Care Unit Caregiver Behavior Checklists (NICU-CBC)

CHECKLIST	PAGE	Checklist Utilization: Through observation of the caregiver during routine care procedures, the evaluator records
1. Protected Sleep	2	the presence of the indicator (Yes, No, or Not Applicable). The NICU-CBC is a collection of checklists that allow for a systematic observation of DSC caregiving behaviors observed during routine NICU care. The individual presentation of checklists by core measure allows teams to
2. Activities of Daily Living ¹		focus on observations of behaviors associated with the individual core measure; however, they are not intended to be used in strict isolation. For example, the Pain and Stress Checklist includes items applicable in all DSC care,
A. Positioning/Body Support	3	thus should be included for each observation.
B. Handling	4	Recommended Evaluator: Those completing the NICU-CBC should have advanced knowledge in DSC practices.
C. Skin Integrity	6	Evaluators are frequently identified as champions of DSC in their setting. It is recommended that NICUs seeking to
3. Pain and Stress	8	improve the quality of DSC practices create an Interprofessional DSC team. Individual team members would operate as champions for certain core measures according to their knowledge and expertise.
4. Healing Environment ²		Target: The NICU-CBC is intended to assess NICU professional staff (e.g., nurses, therapists, and physicians). The
A. Sound	10	checklist may also be used for self-evaluation or parent education.
B. Lighting	11	Assumptions: Care is provided based on assessment of the infant's status (medical, neurobehavioral, developmental) and situational awareness of the competing constraints in the setting (e.g.,
C. Olfactory	12	staffing/workload/resources). Caregivers provide care in constant recognition and response to the infant's
D. Thermal	12	individual behavior cues and needs. All NICU care providers are empowered to advocate for DSC by providing oversight of hospital personnel who arrive on the NICU for their adherence to DSC core measure and with an
5. Family – Centered Care ³	13	agenda for continuous quality improvement as an individual, a team, and a system.

¹ Except "feeding"

² Aspects associated with caregiver (individual) behaviors; not at the systems level

³ Limited indicators in the area of family-centered care

1. Protected Sleep Checklist

Instructions: Observe the caregiver's behavior for indicators listed below:

- Mark (Yes) for indicators demonstrated during the observation.
- Mark (No) for indicators that were not demonstrated during the observation, despite the opportunity
- Mark (NA) for indicators that were not applicable during the observation (e.g., not appropriate for the infant's medical or developmental status of the infant or if a parent/guardian is not available at that moment)
- Add comments at the bottom of each core measure checklist.

Inc	dicators for Protected Sleep	Date	servati :: erver: _	on 	Ob: Date Obse		ion 	Ob Date Obse		on	Date	servat :: erver: _	ion 	Ob Date Obse		on
		Yes	No	NA	Yes	No	NA	Yes	No	NA	Yes	No	NA	Yes	No	NA
1.	Observes and respects sleep-wake states in caregiving decisions (i.e., timing, approach to care)															
2.	Allows for infant sleep during uninterrupted and extended skin-to-skin contact with parent/guardian (kangaroo mother care)															
3.	Prioritizes protected sleep when planning for routine care and procedures															
4.	Clusters care as tolerated to maximize sleep															
5.	Educates parent/guardian about importance of protected sleep in the NICU															
6.	Uses published guidelines for safe sleep (e.g., AAP or other published safe sleep guidelines) in anticipation of discharge															
7.	Educates/involves parents/guardians in safe sleep procedures for hospital and home beginning at least 10 days prior to anticipated discharge															

2A. Activities of Daily Living: Positioning/Body Support Checklist

Instructions: Observe the caregiver's behavior for indicators listed below:

- Mark (Yes) for indicators demonstrated during the observation.
- Mark (No) for indicators that were not demonstrated during the observation, despite the opportunity
- Mark (NA) for indicators that were not applicable during the observation (e.g., not appropriate for medical or developmental status of the infant or if a parent/guardian is not available at that moment)
- Add comments at the bottom of each core measure checklist.

In	dicators for Positioning/Body Support	Date	servati : rver:	on 	Ob Date Obse		ion 	Dat	oserva e: erver:	tion	Date	servat : erver: _	ion 	Ob Date Obse		on
		Yes	No	NA	Yes	No	NA	Yes	No	NA	Yes	No	NA	Yes	No	NA
1.	Routine assessment of infant positioning (e.g., Infant Position Assessment Tool)															
2.	Allows for uninterrupted and extended skin-to-skin contact with parent/guardian (kangaroo mother care)															
3.	Individualizes positioning based on medical/developmental status															
4.	Positions in physiologic flexion (check all items observed below: if all are checked, check "yes" in observation column; if all are NOT checked, check "no" or "NA" and provide explanation in box to the right):															
	□ Shoulders rounded softly	Comm	ents:		Comm	nents:		Comn	nents:		Comm	nents:		Comm	nents:	
	Hands can touch face															
	Hips aligned and softly flexed/back rounded															
	Knees and ankles softly flexed															
	Head in neutral, midline, or slightly flexed forward 10°								-			-	-			
5.	Positioning allows for spontaneous movement															
6.	Provides positional aides for flexion, e.g., nest/rolls/position as needed															
7.	Positional aides are reduced as ability to maintain physiologic flexion matures															
8.	Educates/involves parents/guardians in positioning															

2B. Activities of Daily Living: Handling Checklist

- Mark (Yes) for indicators demonstrated during the observation.
- Mark (No) for indicators that were not demonstrated during the observation, despite the opportunity
- Mark (NA) for indicators that were not applicable during the observation (e.g., not appropriate for medical or developmental status of the infant or if a parent/guardian is not available at that moment)
- Add comments at the bottom of each core measure checklist.

Inc	dicators for Handling	Date	oservati e: erver: _	ion	Date	servat :: erver: _			servat : rver:_	-	Date	servat : erver: _	ion 	Ob Date Obse		on
		Yes	No	NA	Yes	No	NA	Yes	No	NA	Yes	No	NA	Yes	No	NA
1.	Follows appropriate swaddling protocol (e.g., allows for spontaneous movement; supports physiologic flexion, hands to face)															
2.	Swaddles for bathing, weighing, moving out of warmer/incubator															
3.	Maintains flexion during nappy/diaper change															
4.	Does not lift hips above the head during nappy/diaper change															
5.	Fits nappy/diaper to allow for knee tucking without pushing on abdomen															
6.	Fits nappy/diaper to allow for neutral hip position															
7.	Movement: Moves infant slowly and gently															
8.	Repositions with each care to promote symmetric development and skin integrity															
9.	Individualizes touch based on tolerance and medical/developmental status (check all that apply)															
	□ Still touch															
	□ Slow touch															
	□ Firm yet gentle touch													_		
10.	Varies positions (supine, prone, side-lying) based on medical/ developmental status															

Indicators for Handling	Date	servati :: :rver: _	ion	Date	servat :: :rver: _	ion	Ob: Date Obse		ion	Ob Date Obse		ion	Ob: Date Obser		on
	Yes	No	NA	Yes	No	NA	Yes	No	NA	Yes	No	NA	Yes	No	NA
11. Monitors head position in bed for head shaping															
12. Varies head positions (lateral and midline) to maintain head shape															
13. Uses four hands when needed for fragile infants															
14. Educates/involves parents/guardians in handling															

2C. Activities of Daily Living: Skin Integrity Checklist

- Mark (Yes) for indicators demonstrated during the observation.
- Mark (No) for indicators that were not demonstrated during the observation, despite the opportunity
- Mark (NA) for indicators that were not applicable during the observation (e.g., not appropriate for medical or developmental status of the infant or if a parent/guardian is not available at that moment)
- Add comments at the bottom of each core measure checklist.

In	dicators for Skin Integrity		servat : rver: _			servati : rver: _		Date	servati :: erver: _		Date	servat :: erver:_		Ob Date Obse		on
		Yes	No	NA	Yes	No	NA	Yes	No	NA	Yes	No	NA	Yes	No	NA
1.	Assesses and documents skin integrity once per shift (using reliable assessment tool (e.g., Braden-Q)															
2.	Adheres to positioning indicators to prevent skin breakdown															
3.	Examines position and provides skin care as per protocol for (check all that apply):															
	□ Nasal prongs/masks															
	🗆 Nasal cannula's straps															
	□ Probes															
	□ Other															
4.	Examines all intravenous access sites for evidence of infiltrate															
5.	Protects skin during application, use, and removal of adhesives															
6.	Bathes infant every three days or less															
7.	Avoids use of soaps and emollients. Uses pH-neutral cleanser for infants weighing less than 1000 grams															
8.	Changes nappy/diaper frequently to avoid breakdown															
9.	Observes skin condition and uses protective measure, such as barrier cream, during diaper changes as needed															

Indicators for Skin Integrity	Ob: Date Obse		ion	Ob: Date Obse		on	Date	servati :: erver:	on 	Date	servat	ion	Ob: Date Obse		ion
	Yes	No	NA	Yes	No	NA	Yes	No	NA	Yes	No	NA	Yes	No	NA
10. Avoids using substances to help affix or remove tape															
11. Avoids tape directly on skin, using barrier e.g. Duoderm as indicated															
12. Manages humidity in incubator according to setting protocol															
13. Educates/involves parents/guardians in management of skin integrity															

3. Stress and Pain Checklist

- Mark (Yes) for indicators demonstrated during the observation.
- Mark (No) for indicators that were not demonstrated during the observation, despite the opportunity
- Mark (NA) for indicators that were not applicable during the observation (e.g., not appropriate for medical or developmental status of the infant or if a parent/guardian is not available at that moment)
- Add comments at the bottom of each core measure checklist.

Indicators for Stress	and Dain	Ob Date	servati e:	ion	Ob Date	servati :	ion	Ob Date	servat	ion	Ob Date	oservat e:	ion	Ob Date	servati e:	ion
multators for stress		Obse	rver:		Obse	rver:		Obse	rver:		Obse	erver:		Obse	erver:	
		Yes	No	NA	Yes	No	NA	Yes	No	NA	Yes	No	NA	Yes	No	NA
 Assesses stress and every 4 hours) 	/or pain at each care interaction (at a minimum of															
 Provides frequent a care) 	nd prolonged skin-to-skin contact (kangaroo mother															
3. Adheres to position B, Part 2)	ing and handling guidelines (indicators in Checklist															
4. Follows established management	protocol for non-pharmacological stress and pain															
5. Demonstrates awar delivery of care and	eness of stress and pain management in relation to procedures															
6. Adapts caregiving a	ctivities to minimize pain and stress															
	nd pain by using 1 or more of the following infant preference (check strategies observed)															
□Skin-to-skin co	ntact															
🗌 Hand Contain	ment															
Swaddle or co	ntain infant during procedure															
□ Non-nutritive	sucking, pacifier or nipple	_														
	or Dextrose prior to painful stimulation	_														
	other's scent (e.g., on breast pad or soft cloth)															
	ce, with breastfeeding or providing [expressed] breastmilk															
□ Facilitate gras		-														
Reassure with	-															
Two-person ca	re during procedures															

Indicators for Stress and Pain	Date	servati :: :rver: _	on		servati : rver:	on		servati : rver: _	ion	Date	servat :: erver: _		Date	servati : rver: _	ion
	Yes	No	NA	Yes	No	NA	Yes	No	NA	Yes	No	NA	Yes	No	NA
 Responds promptly to infant's stress and needs (provides care and stress management strategies) 															
 Pauses care with indication of distress (autonomic, physiologic, behavioral); uses strategies to support, recover, and return to baseline before resuming care 															
 Only performs suctioning, respiratory support and other oral care as necessary with attention to minimizing distress 															
11. Uses individualized and infant-driven interaction															
12. Exclusively uses mother's milk for mouth care															
 Reliably manages stress and pain during all pain-inducing procedures (or for alleviating pain and stress) 															
14. Uses umbilical lines and peripheral inserted central catheters (to limit needle insertions)															
 Educates/involves parents/guardians in infant's preferred stress management strategies 															

4A. Healing Environment: Sound Checklist

- Mark (Yes) for indicators demonstrated during the observation.
- Mark (No) for indicators that were not demonstrated during the observation, despite the opportunity
- Mark (NA) for indicators that were not applicable during the observation (e.g. not appropriate for medical or developmental status of the infant or if a parent/guardian is not available at that moment)
- Add comments at the bottom of each core measure checklist.

			servat	ion		servati	on		servat	ion		servat	ion		servati	ion
In	dicators for Sound	Date Obse	e: erver:			e: erver:		Date Obse	e: erver:			e: erver:		Date Obse	e: erver:	
		Yes	No	NA	Yes	No	NA	Yes	No	NA	Yes	No	NA	Yes	No	NA
1.	Adheres to sound protocols established at the NICU. (Check strategies															
	observed below. Under "Observation", check "yes" if the strategy(ies)			_	_			_			_			_	_	_
	managed the sound; check "no" if strategy(ies) did not manage the															
	sound and/or there was a missed opportunity to use a strategy, e.g.,															
	did not silence a mobile phone when it sounded)															
	Maintains sound levels below 45dB for ambient sound															
	Intermittent sound does not exceed 65dB															
	Encourages quiet in the NICU															
	Promptly silences alarms															
	Places technology/mobile phones on quiet															
	Informs others to speak softly															
	Mediates sound levels via ear protection as needed															
	Other (from protocol)		1	-	r		1		1	-		l.	1		1	1
2.	Recognizes noisy equipment and quiets or removes where possible															
3.	Advocates for adherence to sound levels with NICU personnel and															
	visitors															
4.	Provides optimal auditory input (Check strategies observed)															
	□ Encourages human voice (e.g. talking/singing softly; preferably parent's voice)															
	\Box Encourages exposure to parent's biological sounds via Kangaroo care															
5.	Promotes parent-infant conversation as per infant readiness and behavior cues															

Date	e:	on 	Date	:	on 	Date	:	ion 	Date	:	ion 	Date	:	ion
Yes	No	NA	Yes	No	NA	Yes	No	NA	Yes	No	NA	Yes	No	NA
	Date Obse Yes	Date: Observer: _ Yes No	Observer: Yes No NA Image: Constraint of the second secon	Date: Date Observer: Observer Yes No No Image: Constraint of the second secon	Date: Date: Observer: Observer: Yes No NA Yes No □ □ □ □ □ □ □ □ □ □ □ □ □ □ □	Date: Observer: Yes No NA Yes No NA □ □ □ □ □ □ Yes No NA Yes No NA □ □ □ □ □ Yes No NA Yes No NA □ □ □ □ □ □ □ □ □ □ □	Date: Date: Date: Observer: Observer: Observer: Yes No NA Yes No NA Yes Image: Constraint of the second secon	Date: Date: Observer: Observer: Yes No NA Yes No NA Question Question Question Question Question Question Question Question Question Quest	Date:	Date: Date: Date: Date: Observer: Observer: Date: Date: Yes No NA Yes No NA Yes No NA Yes Image: Construction of the state of th	Date:	Date:	Date:	Date:

4B. Healing Environment: *Lighting* Checklist

In	dicators for Lighting	Date	servati :: :rver: _	on	Date	servati : rver: _	on 	Date	servat :: erver: _	ion 	Date	servat :: erver: _	ion 	Date	servati :: erver: _	ion
		Yes	No	NA	Yes	No	NA	Yes	No	NA	Yes	No	NA	Yes	No	NA
1.	Maintains a dimly lit NICU during day and darker at night															
2.	Maintains ambient light levels ranging between 10 and 600 lux/lumens, with 20 lux/lumens for evenings and night															
3.	Protects infant's eyes with eye shield when bright light is needed for procedures															
4.	Covers eyes and genitals when infant is under bili-lights															
5.	Implements other lighting strategies according to NICU protocol (e.g., cyclical lighting)															
6.	Educates/involves parents/guardians in managing lighting															

4C. Healing Environment: Olfaction Checklist

Indicators for Olfaction		Observation Date: Observer:			Observation Date: Observer:			servati : rver: _	ion 	Observation Date: Observer:			Observation Date: Observer:		
	Yes	No	NA	Yes	No	NA	Yes	No	NA	Yes	No	NA	Yes	No	NA
 Eliminates (or reduces) strong and/or noxious odors in and around the infants' microenvironment (e.g., alcohol, perfume, cigarette smoke) 															
Exposes infants to mother's scent when possible (proximity to breast, breast pad, or soft cloth)															
3. Educates/involves parents/guardians in managing odors/scents															

Comments:

4D. Healing Environment: *Thermal Stability* Checklist

Indicators for Thermal Stability		Observation Date: Observer:			Observation Date: Observer:			servat	ion	Observation Date: Observer:			Observation Date: Observer:		
	Yes	No	NA	Yes	No	NA	Yes	No	NA	Yes	No	NA	Yes	No	NA
1. Monitors temperature as part of routine care															
2. When assessing cause of infant stress, considers infants skin temperature (as a possible cause of infant stress?															
3. Swaddles baby when out of cot (e.g., shifting to another warmer, bathing, weighing, and preparing for discharge)															
4. Provides cap/hat during skin-to-skin, out of radiant warmer/incubator or when working on thermo-regulation															
5. Educates/involves parents/guardians on the importance and need for thermal stability															

5. Family-Centered Care Checklist

Instructions: Observe the caregiver's behavior for indicators listed below:

- Mark (Yes) for indicators demonstrated during the observation.
- Mark (No) for indicators that were not demonstrated during the observation, despite the opportunity
- Mark (NA) for indicators that were not applicable during the observation (e.g., not appropriate for medical or developmental status of the infant or if a parent/guardian is not available at that moment)
- Add comments at the bottom of each core measure checklist.

Indicators for Family-Centered Care		Observation Date: Observer:			Observation Date: Observer:			Observation Date: Observer:			Observation Date: Observer:			Observation Date: Observer:		
	Yes	No	NA	Yes	No	NA	Yes	No	NA	Yes	No	NA	Yes	No	NA	
1. Greets parents/guardians when they enter																
2. Answers questions in a kind manner																
3. Displays caring and affection for their baby																
4. Familiarizes parents with equipment in the infant's environment (if not done in previous interactions)																
 Encourages the family to ask questions regarding infant's care, equipment, and/or environment 																
6. Encourages parent/guardian to speak/sing softly to baby																
7. Promotes parent-infant face-to-face interactions																
8. Models DSC to parents/guardians																
9. Encourages parent participation in the infant's care																
10. Promotes infant-parent bonding via prolonged skin-to-skin contact when infant is medically stable (per a skin-to-skin contact protocol)																
11. Promotes and encourages breastfeeding (and/or breast milk expression)																
12. Progresses parent involvement with infant's care in preparation for discharge																