



Topic Expert Group: NICU design

Facilitation of skin-to-skin care and parental involvement through the physical environment

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Target group

Infants and parents

User group

Healthcare professionals, neonatal units, hospitals, administrators, architects, health services, and payer organisations

Statement of standard

A physical environment that facilitates parent-infant closeness and skin-to-skin care is considered in NICU planning.

Rationale

The design of the neonatal unit is fundamental to facilitate parental presence and involvement in care and for skin-to-skin contact throughout the 24 hours. The standard specifies important aspects in the physical environment of the NICU that facilitate active parental participation and parent empowerment in daily care. Family-centred care, including skin-to-skin contact between infant and parent, is a caring mode for newborn infants that is superior to traditional care in incubators or open beds. (see TEG Infant- & family-centred developmental care) There are ethnographic studies showing that letting parents establish a secluded area around the infants bed gives a feeling of privacy that may increase parental satisfaction and presence, so called safe corners. (1)

Planning for a NICU environment integrates scientific evidence and is also an issue of practical and smart technical and design solutions. One main source of information and input should be through visits to units that have gone through the process of redesigning their unit, and discussion with colleagues about strengths and weaknesses of their design.

In the planning process it should be acknowledged that there may be a conflict between patient and family preferences and the preferences of the staff, building, and technical department or administration. Such conflicts should be handled with great caution with respect to the patients' rights and interests. Free-speaking competent advocates for the patients' interests should be appointed early in the process, and their view should be considered to represent the infant's needs and wishes.

Benefits

Short-term benefits

- Increased physical stability of the newborn infant (2–6)
- Reduced mortality and infection rate (7)
- Improved self-regulation and sleep (8,9)



- Decreased newborn infant stress and pain (9–11)
- Improved parental confidence (12,13)
- Early parent-infant interaction (14)
- Reduced length of parent-infant separation (15,16)

Long-term benefits

- Improved cognitive and neurodevelopmental outcome (17–19)
- Improved and prolonged exclusive breastfeeding (8,13)
- Improved speech development (20–22)

Components of the standard

Component	Grading of evidence	Indicator of meeting the standard
For parents and family		
1. Parents and family are informed by healthcare professionals about principles and purpose of the design to facilitate skin-to-skin care and are part of the planning process for NICU design.	B (High quality)	Guideline, parent feedback, patient information sheet
For healthcare professionals		
2. Healthcare professionals are part of the design team.	B (High quality)	Guideline
For neonatal unit		
3. The design ensures that parents and infants are protected from unwanted sensory exposure (noise, light, smell). (16,23–25)	A (Moderate quality) B (High quality)	Guideline
4. Facilities are available to ease transfer from incubator to skin-to-skin care and the use of simultaneous monitoring and respiratory support technologies to allow uninterrupted skin-to skin care.	B (High quality)	Guideline
5. Hospital beds, which result in longer periods of skin-to-skin care (26), and reclining chairs suitable for mothers that have recently given birth and that allow adjustments of position are available.	A (High quality)	Guideline
For hospital		
6. Physical space and architectural standards in the design facilitate close infant-parent contact throughout the 24 hours, integrating a primary user's perspective and cover delivery room,	B (High quality)	Guideline



transfer areas, and NICU.

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| 7. Over-night accommodation facilities for parents in or close to the ward with possibilities for having all meals in the hospital are provided. (26,27) | A (Moderate quality)
B (High quality) | Guideline |
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For health service

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| 8. A national guideline for the physical and architectural standards in the NICU including a primary user's perspective allowing close infant-parent contact throughout the 24 hours and entire hospital stay is available. (28) | B (High quality) | Guideline |
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Where to go – further development of care

Further development	Grading of evidence
For parents and family N/A	
For healthcare professionals	
<ul style="list-style-type: none"> Provide technical facilities to start skin-to-skin care in the delivery unit and during transfer to the NICU for stable infants. 	B (Moderate quality)
For neonatal unit	
<ul style="list-style-type: none"> Provide single family rooms or adequately sized protected patient treatment areas allowing undisturbed skin-to-skin care. (11) Optimise monitoring equipment and use wireless monitoring. Provide adequately sized hospital beds for parents with high quality electrically adjustable mattresses. Provide separate bathrooms for parents. Provide flexible mounting of pumps, CPAP, and ventilators to easy move the patient without disconnecting equipment. Provide a suitable area for visiting siblings and a visiting policy allowing siblings into the ward. 	A (High quality) B (Moderate quality) B (Moderate quality) B (Moderate quality) B (Moderate quality) B (Moderate quality)
For hospital	
<ul style="list-style-type: none"> Ensure space for both parents caring for the infant skin-to-skin contact throughout the 24 hours. 	B (Moderate quality)
For health service N/A	



Getting started

Initial steps

For parents and family

- Parents are involved from the earliest steps in the process of re-design/re-arrangement of the NICU in order to ensure that their needs are met.

For healthcare professionals

- Provide parents with a place to sit down beside their infant allowing the infant to be in physical contact with their parents and to hear parents' voice.

For neonatal unit

- Develop strategies for implementing skin-to-skin contact, bearing in mind the specific outline of the unit.
- Work systematically with healthcare professionals to ensure the re-design/re-arrangement captures critical aspects of the parent-infant relationship and of skin-to-skin care.
- Prioritise parent-infant areas before other unit demands for space.
- Provide over-night accommodation and eating facilities in the hospital or nearby.

For hospital

- If space is limited take all measures to prioritise the physical environment to facilitate parent stay and prolonged skin-to-skin care.

For health service

- Develop and implement a national guideline for the physical and architectural standards in the NICU with a primary user's perspective allowing close infant-parent contact throughout the 24 hours and entire hospital stay.

Source

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