



Topic Expert Group: Care procedures

Protecting sleep

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Target group

Infants, parents, and families

User group

Healthcare professionals, neonatal units, hospitals, and health services

Statement of standard

Sleep of all infants is respected.

Rationale

Fetuses and infants spend most of their time sleeping. Sleep is crucial to early neurosensory and motor development. (1,2) Therefore, sleep protection for infants during neonatal care is a goal for parents and healthcare professionals. Sleep is a regulated process. Sleep-wake states can be observed only after the neuronal structures involved have developed sufficiently.

Sleep state identification and respecting the period of sleeping in preterm infants become essential because good sleep organisation in the infant is related to better developmental outcomes. Protecting sleep cycles is critical to preserve the brain's ability to change, adapt and learn in response to experiences. (1) During sleep preterm infants are building their brain.

The neonatal unit environment has the potential to affect the quality and quantity of sleep (3) with disruption of brain development. (4)

It is important to encourage caregiving practices that preserve sleep, a non-invasive environment (5) focused on the infant's individual needs and behavioural patterns, and help with the transition between the states. Kangaroo mother care has shown to be an important strategy, increasing sleep time and the amount of quiet sleep (6), and improving sleep-wake cycles. (7–9)

Benefits

Short-term benefits

- Improved growth (4)
- Improved neuronal development (1,2,10)
- Improved behavioural organisation (1,2,10)
- Improved temperature regulation (11)

Long-term benefits

- Improved development of motor and neurosensory systems (12)



Components of the standard

Component	Grading of evidence	Indicator of meeting the standard
For parents and family		
1. Parents are informed by healthcare professionals about the importance and benefits of sleep during the neonatal period. (13,14)	A (Moderate quality) B (High quality)	Patient information sheet
2. Parents are trained and supported to recognise sleep signals in their infant and how to comfort the baby. (14)	A (Moderate quality) B (High quality)	Training documentation
3. Parents are encouraged and supported in skin-to-skin contact with their infant, and know the benefits regarding their infant's sleep. (6–8,14) (see TEG Infant- and family-centred developmental care)	A (Moderate quality) B (High quality)	Guideline, parent feedback
4. Parents are trained to facilitate self-calming behaviours and to use strategies to support infants sleep, restful period between caregiving and quiet alert periods. (14)	A (Moderate quality) B (High quality)	Training documentation
For healthcare professionals		
5. A unit guideline on sleep protection is adhered to by all healthcare professionals.	B (High quality)	Guideline
6. Training on the importance of sleep during the neonatal period, sleep-wake cycles in term and preterm infants and self-calming behaviours is attended by all responsible healthcare professionals. (4,5,13)	A (Moderate quality) B (High quality)	Training documentation
7. Environmental conditions that protect sleep cycles, individual needs and family participation and respect the individual behavioural states are assured. (15,16)	A (Moderate quality) B (Moderate quality)	Guideline
For neonatal unit		
8. A unit guideline on sleep protection, including the maintenance of comfort, quiet environment and light control is available and regularly updated. (15)	A (Moderate quality) B (High quality)	Guideline



9. Individualised care planning, including skin-to-skin care, to protect the infant's sleep is implemented. (4,6–8,11,14)	A (Moderate quality) B (Moderate quality)	Audit report, clinical records
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For hospital

10. Training, recommendations and strategies to respect sleep and provide education and resources about sleep and sleep protection are ensured. (15) (see TEG NICU Design)	A (Moderate quality) B (High quality)	Guideline, training documentation
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11. Appropriate comfortable chairs for skin-to-skin care are available. (see TEG Infant- & family-centred developmental care, see TEG NICU Design)	A (Moderate quality) B (High quality)	Audit report
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For health service

12. A national guideline on sleep protection is available and regularly updated. (17)	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 N/A	
For neonatal unit N/A	
For hospital	
<ul style="list-style-type: none"> Provide equipment that is low in sounds and fitting the development of the infants in the NICU to protect sleep. 	B (Moderate quality)
For health service	
<ul style="list-style-type: none"> Promote research into sleep to improve the quality of care. 	B (Moderate quality)

Getting started

Initial steps

For parents and family

- Parents are verbally informed by healthcare professionals about the importance of sleep during care.
- Adjust care to the sleep-wake rhythm of the child.

For healthcare professionals

- Attend training on the importance of sleeping during infancy and recognise sleep-wake cycles in term and preterm infants.
- Coordinate between different healthcare professionals of different specialties in order



to protect the infant's sleep.

- Adjust care to the sleep-wake rhythm of the child.

For neonatal unit

- Develop and implement a unit guideline on sleep protection.
- Develop information material on the importance of sleep during care for parents.
- Organise training sessions for caregivers explaining the importance of respecting sleeping period for the infant brain development and the unit policy or guidelines.
- Provide protocols within meetings between all hospital specialities related to care in order to protect sleep to evaluate cooperation.

For hospital

- Support healthcare professionals to participate in training on the importance of sleeping during infancy and recognise sleep-wake cycles in term and preterm infants.

For health service

- Develop and implement a national guideline on sleep protection.

Description

Infants have a different sleep pattern to older individual. During infancy, there are three types of sleep: (3)

Active sleep (AS)

Irregular sleep in which the electrical activity is like the waking state. Rapid eye movement under the eyelids, irregular heartbeat and breathing are present. This type of sleeping represents 50% of newborn at term.

Quiet sleep

The body is relaxed, there is no eye movement, and the heartbeat and breathing are regular, the parasympathetic system predominates. The muscles are relaxed but there may be movement.

Undetermined sleep

It is difficult to identify, as it is neither one nor the other: characteristic of preterm infants, who have their brain in continuous development.

During active sleep there is an endogenous intense and generalised stimulation, AS might play the role of stimulation to the brain in a period when waking life is limited. Mainly, AS is associated with the development of the sensory systems and it is necessary to form long-term circuits related with memory and learning. Quiet sleep plays an important role in the synaptic remodelling, in tissue repair and recovering from illness, as well as growth. (4)

Source

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First edition, November 2018

Lifecycle

5 years/next revision: 2023

Recommended citation

EFCNI, López Maestro M, Camba F et al., European Standards of Care for Newborn Health: Protecting sleep. 2018.