



Topic Expert Group: Birth and transfer

Neonatal transport

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Target group

Infants and parents

User group

Healthcare professionals, neonatal units, hospitals, health services, and regional neonatal transport services

Statement of standard

Infants are transferred by a dedicated, specialised medical service that offers a quality of care similar to that promoted in a NICU.

Rationale

The regional organisation of perinatal care based on primary, secondary and tertiary care (see TEG Birth & transfer) mandates the provision of infant transport services to facilitate the flow of patients through the system when antenatal transfer is impossible. (1) Neonatal transport is a critical phase of perinatal care, with specific needs for a specialised team and equipment to ensure maximal safety and efficiency. (2–5) Consensus guidelines and recommendations are proposed by healthcare professionals on paediatric and neonatal inter-facility transport. (1) Efficiency of specialised paediatric and neonatal transport has been evaluated in several studies. (6–15) When an infant no longer needs higher levels of care, a transfer to a hospital closer to the family's home is recommended. This also optimises the use of available cots for all levels of care and allows the local hospital staff to familiarise themselves with the patient who will be followed up locally.

A standard detailing facilities and capabilities of transport services in the special environment of an ambulance, helicopter or fixed wing aircraft is thus needed throughout Europe.

Inter-hospital communication and regulation of transfers are complex and time consuming tasks that need to be managed by a dedicated call handling/regulation centre at the regional level, covering a sufficiently large area to reach a critical volume of activity.

Intra-hospital neonatal transfer, in particular in situations where the delivery room and the NICU are not adjacent, is also critical and warrants the same standard.

Benefits

Short-term benefits

- Improved medical care and outcomes for infants needing transfer (6–15)
- Improved transfer conditions (consensus)
- Optimised use of NICU and perinatal centres resources (consensus)



Long-term benefits

- Improved outcomes for infants and families (consensus)
- Improved overall performance of regional organisation of perinatal care and reduction of healthcare costs (consensus)

Components of the standard

Component	Grading of evidence	Indicator of meeting the standard
For parents and family		
1. Parents and family are informed about all aspects of the transfer of the infant by healthcare professionals.	B (High quality)	Parent feedback, patient information sheet
2. Parents/one parent are able to accompany the infant during transfer.	B (High quality)	Parent feedback, patient information sheet
For healthcare professionals		
3. A unit guideline on neonatal transport is adhered to by all responsible healthcare professionals.	B (High quality)	Guideline
4. Education and training, including medical simulation training and continuous education/training, are attended by members of the transport team and for other neonatal and obstetric healthcare professionals involved in neonatal transport. (16) (see TEG Education & training)	A (Moderate quality) B (High quality)	Guideline, training documentation
For neonatal unit and hospital		
5. A unit guideline on intra-hospital neonatal transport, including transport of newborn infants in critical conditions, as part of the hospital organisation is available and regularly updated.	B (High quality)	Guideline
6. Trained and experienced healthcare professionals as well as equipment resources needed for intra-hospital neonatal transport are provided.	B (High quality)	Audit report, training documentation
7. Education and training, including medical simulation training and continuous education/training, are attended by members of the transport team and other neonatal and obstetric healthcare professionals involved in	A (Moderate quality) B (High quality)	Guideline, training documentation



neonatal transport. (16) (see TEG
Education & training)

For health service and regional neonatal
transport service

8. A regional/national guideline on inter-hospital neonatal transport is available and regularly updated.	B (High quality)	Guideline
9. Health service is responsible for the provision of a regional neonatal transport service allowing complete preservation of life functions, such as body temperature maintenance, haemodynamic, respiratory, neurologic, metabolic functions and sepsis management (see description).	B (Moderate quality)	Audit report
10. Nurse or midwife assisted neonatal transport of newborn infants who do not need medical assistance (e.g. transfer of newborn infants for step down care) is available.	B (Moderate quality)	Guideline
11. A unique regional call and transfer regulation center is organised and continuously available, with a dedicated call number and real time information on the available cots in primary, secondary and tertiary centres.	B (Low quality)	Audit report

Where to go – further development of care

Further development	Grading of evidence
For parents and family	
<ul style="list-style-type: none"> Parents are involved in the monitoring of quality of organisation of perinatal care and neonatal transport. 	B (Low quality)
For healthcare professionals	
<ul style="list-style-type: none"> Ensure that neonatal transport healthcare professionals are trained, using real conditions and medical simulation. (17,18) 	A (Low quality)
For neonatal unit	
<ul style="list-style-type: none"> Ensure the availability of a trained and experienced dedicated team for intra-hospital neonatal transport and for participation in regional transport. 	B (High quality)
For hospital	
N/A	



For health service and regional neonatal transport service

- Provide stringent quality improvement programmes including parental satisfaction. **B (Low quality)**

Getting started

Initial steps

For parents and family

- Parents are verbally informed by healthcare professionals about the transport of their infant.

For healthcare professionals

- Attend continuous training on neonatal transfer.

For neonatal unit

- Develop and implement a unit guideline on neonatal transport.
- Develop information material on neonatal transport for parents.
- Equip and staff each neonatal unit for intra-hospital transport and eventual participation to inter-facility transport.

For tertiary level hospital

- Support healthcare professionals to participate in training on neonatal transport.
- Coordinate specialised inter-hospital transport service.

For health service and regional neonatal transport service

- Develop and implement a national guideline and/or a policy statement on neonatal transport.
- Support the development of information material on neonatal transport for parents.
- Provide and structure regional perinatal transport services, including quality control.

Description

Staff and equipment for neonatal transfers

Staff and equipment should be dedicated to undertaking neonatal transport.

Vehicle for road transfer

- A dedicated vehicle should be reserved for neonatal transport
- Vehicles to be used for neonatal transport should conform to European Standard EN 1789 (16)
- In addition, vehicles should have
 - Seating for at least three staff/family
 - No-lifting loading & unloading of incubator equipment
 - Supplies of compressed medical gases sufficient for double the longest anticipated transfer.
 - Secure power supply such that medical equipment may be powered from the vehicle without using incubator batteries.
 - Fridge for drugs conservation



Air transport (helicopter or fixed wing)

- Neonatal transport service must have a structured access to air transport service and facilities.

Equipment

- The neonatal equipment used should conform to European Standards EN 13976-1 and EN 13976-2. (18)
- Equipment used for neonatal transport in air ambulances should additionally conform to EN 13718 - Medical vehicles and their equipment. Air ambulances. Requirements for medical devices used in air ambulances. (17)
- Equipment should be configured such that transported infants
 - Are kept in the thermoneutral temperature zone.
 - Receive the necessary respiratory support.
 - Receive the necessary fluid and drug infusions.
 - Have their vital signs monitored appropriately.
 - Who become critically unstable in transit can receive emergency care (airway, breathing, circulation).

Staff for transfer

- For ground transfers the drivers of vehicles should hold relevant training for driving emergency vehicles.
- The clinical team should include nurse, advanced clinical practitioner, doctor or paramedic depending on the clinical needs of the patient. Healthy infant transfers may be conducted by a nurse alone.
- The clinical team should have received neonatal transport-specific training and be supported by continuing education for transport.
- The work of the clinical team should be supported by transport-specific clinical guidelines.
- Where air transport is anticipated all the staff involved should have received air transport training and preparation and this should be refreshed annually.

Source

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Lifecycle

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