european standards of care for newborn health

Topic Expert Group: **Birth and transfer**

Maternal transfer for specialist care

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Target group
Pregnant women and their partners

User group
Healthcare professionals, perinatal units, hospitals, and health services

Statement of standard
Transfer of pregnant women for specialist care (for mother and/or newborn infant) is an essential component of perinatal care and is carried out in a timely, safe and efficient manner.

Rationale
As newborn infants born to women transferred antenatally have better outcome than those transferred postnatally, the primary goal of perinatal centralisation is that women and newborn infants receive obstetric and neonatal care in appropriate facilities. Maternal transfer refers to the transfer of a pregnant woman during the ante-, intra- and occasionally also postpartum period for special care of the woman, the newborn infant, or both. (1–15)

Antepartum transfer avoids separation of mother and the newborn infant in the immediate postpartum period, allows mothers to communicate directly with neonatal intensive care unit (NICU) healthcare providers, and supports the goal of family-centred care. (16) Establishing uniform indications and contraindications for maternal transfer and formal transfer agreements (emphasising needs and requirements and capacity of local resources and facilities) will help to ensure safe transfer. (12,15)

The main factor to consider when deciding the need for maternal transfer is that expected benefits outweigh potential risks of maternal transfer. (12,15) The condition to be ultimately avoided is a birth occurring during maternal transfer. In case this is foreseen, and the centre does not have the appropriate level of care for that birth, neonatal transfer has to be organised immediately, according to the clinical, structural and geographical situation already before birth. (1,2,12–15,17,18)

Benefits
- Improved medical care for pregnant women and their infants (2,19,20)
- Improved neonatal, maternal and family outcome (2–8,10,11,15,19,20)
- Improved long-term maternal and child health (consensus)
- Improved education/training for healthcare professionals (1,21,22)
- Improved organisation of perinatal care (1,2,18,20,21,23,24)
- Reduced healthcare costs (4)

Components of the standard

Component	Grading of evidence	Indicator of meeting the standard
For parents and family		
1. Expectant parents are referred prenatally to the appropriate centre. (11,25–29)	A (High quality) B (High quality)	Audit report, clinical records
2. Expectant parents are counselled about the reasons for maternal transfer by healthcare professionals.	B (High quality)	Patient information sheet
For healthcare professionals		
3. A unit guideline on maternal transfer identifying different degrees of urgency is adhered to by all healthcare professionals.	B (High quality)	Guideline
4. Training on the indications and contraindications for maternal transfer is attended by all responsible healthcare professionals. (12,15,30)	A (High quality) B (High quality)	Guideline, training documentation
5. Training on neonatal life support is attended by all responsible healthcare professionals. (see TEG Education & training)	B (High quality)	Training documentation
For perinatal units		
6. A unit guideline on maternal transfer identifying different degrees of urgency is available and regularly updated.	B (High quality)	Guideline
7. Step down care and transfer back to referring hospital is provided as soon as clinically indicated. (25)	A (Low quality) B (High quality)	Audit report, clinical records
8. Adherence to the requirements and boundaries of the assigned level of care is ensured.	C (Moderate quality)	Audit report guideline
9. Units are part of a regional perinatal network.	B (Moderate quality) C (Moderate quality)	Audit report

For hospital		
10. Training on the indications and contraindications for maternal transfer as well as neonatal life support is ensured.	B (High quality)	Training documentation
11. Appropriate resources necessary to facilitate maternal transfer are available, including an appropriately trained team. (12,14,15)	A (High quality) C (Moderate quality)	Audit report, training documentation
For health service		
12. A national guideline on maternal transfer identifying different degrees of urgency is available and regularly updated.	B (High quality)	Guideline
13. A real-time system to identify availability of beds (maternal/neonatal) is established.	B (Moderate quality)	Audit report
14. A regional perinatal transfer network according to the local necessities (distance, geographic peculiarities, communication) in order to ensure safety requirements for maternal/neonatal transfer is designed and quality is regularly controlled. (23,31)	C (Low quality)	Audit report

Where to go – further development of care

Further development	**Grading of evidence**
For parents and family	
N/A	
For healthcare professionals	
N/A	
For perinatal unit	
N/A	
For hospital	
• Have a sufficient number of trained healthcare professionals (midwives, obstetricians, anaesthesiologists) in maternal transfer available.	B (Moderate quality)
• Provide appropriate facilities including parking for families who are separated in emergency situations.	B (Moderate quality)

For health service	
• Build communication tools between hub and sub centres with dedicated phones and web services (eHealth regional/national database for perinatal units).	B (Moderate quality)

Getting started

Initial steps

For parents and family

- Parents are verbally informed by healthcare professionals about indications for maternal transfer to the appropriate level of care.

For healthcare professionals

- Attend education and training about indications, contraindications, and necessities for maternal transfer.
- Be aware of and follow protocols for maternal transfer.
- Attend specialty training through on-the-job training or through professional education programmes.

For perinatal unit

- Develop and implement a guideline on maternal transfer.
- Develop information material on maternal transfer for parents.
- Establish perinatal networks.

For hospital

- Support healthcare professionals to participate in training on the indications and contraindications for maternal transfer as well as neonatal life support.
- Provide perinatal units with appropriately trained healthcare professionals and equipment for transfer.
- Identify and provide resources for establishing and maintaining or cooperating with ambulance services.

For health service

- Develop and implement a national guideline on maternal transfer.
- Provide regional/national eHealth databases for perinatal units.

Description

When preterm or medical complications are anticipated, early consultation with and transfer to the appropriate centre as necessary is mandatory.

*The most common obstetric indications for maternal transfer** (12,14,15)

- Preterm labour
- Preterm rupture of membranes
- Severe hypertensive disorders (preeclampsia/HELLP syndrome)
- Antepartum haemorrhage (controlled haemorrhage and stable maternal condition)
- Medical disorders complicating pregnancy (such as diabetes, renal disease…)
- Multiple gestation

- Intrauterine growth restriction
- Fetal abnormalities
- Maternal trauma

*Usually for gestational ages below 32 or 34 weeks, depending on the health service structure

Under some circumstances, maternal transferis not possible, such as: (12,14,15)

- Unstable condition of the pregnant woman
- Uncontrolled haemorrhage
- Unstable fetal condition, threatening to deteriorate rapidly
- Imminent delivery
- No experienced attendants available to accompany the woman
- Too risky weather conditions

Consent for transfer
Appropriate time should be dedicated to explaining to the mother and the family the reasons for transfer and provide adequate directions for the family to the new centre.

Equipment for maternal transfer (14,15)

- Vehicles are equipped as for every high risk/emergency patient with an additional “Emergency Birth Kit” (a sealed kit should be available in every vehicle used for transferof a pregnant woman):
  - Tocolytic drugs
  - Magnesium sulphate (for eclampsia prophylaxis)
  - Antihypertensive drugs
  - In case of unexpected birth: Cord clamps, scissor, warm blanket for the newborn infant (space blanket), uterotonic drugs, container for placenta, retaining system (to secure the newborn infant with the mother during skin to skin during journey)
  - If the delivery occurs in the ambulance, in most cases only initial steps of resuscitation may be needed (for about 99% of the newborn infants step A and B of ILCOR will be sufficient) – figure; someone skilled in neonatal life support should travel with the mother if she is in active labour. (32) (see TEG Medical care & clinical practice)
  - Equipment: neonatal bag/mask (sizes 0 to 2) system, neonatal laryngoscope, battery-powered suction device, suction catheter (size 8, 10 and 12 CH), Guedel airways (size 4, 5 & 6), SpO_2 probe, orogastric feeding tube

Appropriate transferprotocols should be available, in particular for emergency events occurring during transfer such as eclamptic fits, placental abruption, cord prolapse, delivery during transfer, neonatal resuscitation, post-partum haemorrhage, sepsis, maternal cardiac arrest

Drugs with the best safety profile should be utilised during transfer, i.e. tocolytics with less maternal side effects. MEOWS (maternal early warning signs) charts should be filled in during transfer. (33,34)

Source

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