



Sheffield Children's **NHS**
NHS Foundation Trust



NHS
Yorkshire and the Humber
Clinical Networks

Embrace Yorkshire and the Humber In-Utero Transfer Guideline

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Note document previously known as 'Embrace In-Utero Transfers (Yorkshire) Guideline.

Purpose

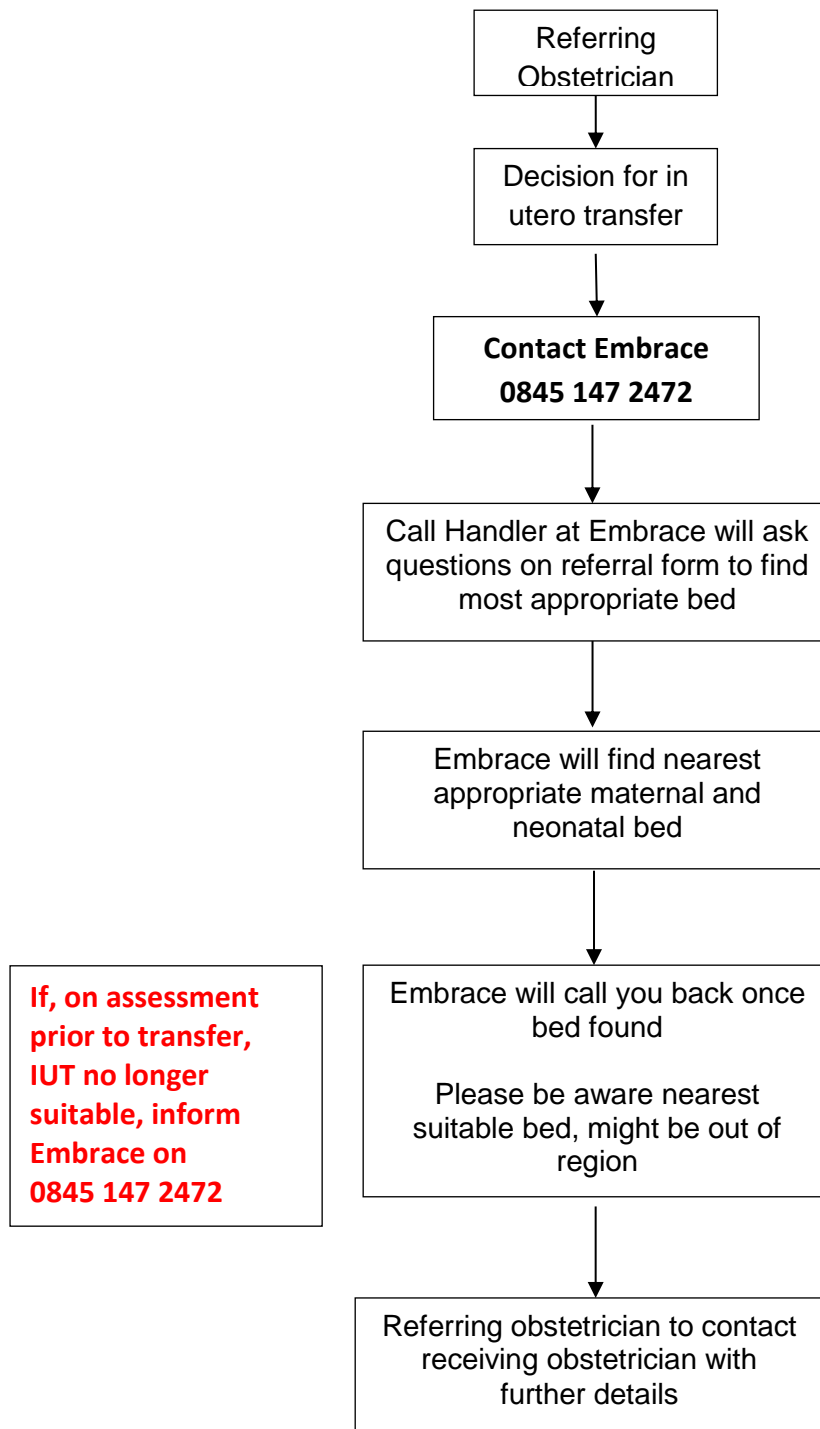
Embrace Infant and Children's Transport Service offers the ability to provide advice and facilitate the process for the in-utero transfer of mother and baby within Yorkshire and the Humber.

Intended Audience

Embrace staff, maternity and neonatal clinical staff in Yorkshire and the Humber.

Contents – to be added prior to publication

Embrace In-Utero Transfers (Yorkshire) Flowchart



1. Statement of intent

1.1. It is generally accepted that in-utero transfer has clinical advantages for the fetus/neonate over ex-utero transfer. The purpose of this guideline is to help provide enhanced care for the mother, her baby or both.

2. Introduction

2.1. A need for a transfer will arise if the referring unit is unable to cope with the particular clinical condition at the time of transfer for a variety of reasons including:

- Neonatal gestational thresholds (**Appendix 1**)
- Antenatal diagnosis requiring specialist postnatal care
- Specialist maternal care
- Bed/cot capacity or staffing

3. General guidance

3.1. All cases:

- Should be discussed with a consultant prior to arranging transfer
- Where possible consultant to consultant handover will occur
- It is recognised that there are circumstances (e.g. out of hours) where the resident obstetrician will have all the relevant information to hand compared to the non-resident consultant
- It is accepted that the registrar can then discuss the transfer with the receiving unit provided they have first discussed it with their own consultant
- If any problems are perceived with the transfer there should be a consultant to consultant discussion
- It is essential that both transferring and receiving consultants are fully aware of the transfer

3.2. Any mother or fetus might be in need of a transfer and it is not possible to provide an exhaustive list:

3.2.1. For a pregnant woman to be suitable for transfer, the staff at the referring hospital need to balance the risks of the transfer against the potential benefits.

3.2.2. Compromising the maternal health or a significant risk of delivery en route would be an absolute contraindication to transfer and consideration should then be given to delivery on site and postnatal ex-utero transfer.

3.2.3. The parents/mother must consent to the transfer.

3.3. Indications for transfer can broadly be split into the following groups:

- Preterm labour (**Appendix 1**)
- Transfer for a maternal indication
- Transfer for specialist paediatric services

3.4. The care pathways of this guideline should be referred to (**Appendix 1**).

Transfers have become harder to arrange as pressure has increased on both the neonatal and delivery suite services. We are fortunate in this region to have Embrace that are charged with finding the most appropriate maternal bed and co-located neonatal cot. Embrace will aim for this to be as close to the mothers home address as possible, but it could be out of area. The Embrace cot bureau is run by non-medical staff and therefore to arrange the most appropriate referrals they need to be provided with all the necessary information (**Appendix 2**).

3.5. Women being transferred should be escorted by a midwife but there is no requirement for medical staff either obstetric or paediatric. If there is sufficient concern for a doctor to be required for transfer then the condition of mother or fetus is such that delivery should occur locally and a postnatal ex-utero transfer arranged.

4. Preterm labour

4.1. The diagnosis of genuine preterm labour can be difficult. Ideally the diagnosis will be made based on the findings of regular uterine contractions and a change in the cervix. Waiting for the latter might mean that the opportunity to arrange a transfer is missed. As more hospitals within the region introduce predictive test screening (Fetal fibronectin (fFN) and Actim Partus (AP)), our ability to become more selective will improve. Negative predictive value of

these tests are around 99%, however, positive prediction is modest (<20%). The use of quantitative fibronectin is the most sensitive and improves the sensitivity if the test. It would be usual to only transfer if the value was >200ng/ml.

4.2. Women in PTL (or threatened PTL) between 24+0 and 35+6 weeks of gestation should be given betamethasone 12mg by intramuscular injection, two doses, 12 hours apart. If this is unavailable then dexamethasone is a suitable alternative (same dosage/administration. The period of maximal effectiveness of steroids is from 24 hours to 7 days after second injection for respiratory distress syndrome. However, the benefit for reduction of IVH and death is greatly reduced within 3 days of administration. **Therefore the risk of preterm labour should be properly assessed before they are used. Injudicious use may deprive a woman of their benefit if she represents later (after 7 days) with further signs of preterm labour.**

4.3. The administration of Magnesium Sulphate for neonatal neuroprotection should be offered in gestations at 30 weeks or less (and can be considered up to 33+6 weeks). In meta-analysis use of magnesium sulphate reduces the likelihood of cerebral palsy from 10 to 7% in babies born at less than 30 weeks. It is likely that benefit is conferred even after the loading dose has been given so administration to mothers should be considered even if delivery appears imminent. It would be reasonable to administer the loading dose and commence the maintenance dose prior to transfer.

4.2.4.4. Consideration should be given to the use of tocolytics for the transfer even with Preterm Pre-labour Rupture of Membranes (PPROM), although the women should be advised that their use might only be for the duration of transfer.

4.3.4.5. PPRM – the median latency between rupture of the membranes occurring between 25 and 31 weeks and delivery is 10 days. Indication for transfer will not therefore necessarily be because of PPRM per se but because of evidence of uterine activity or signs of chorioamnionitis.

4.4.4.6. Cases where fFN/AP and cervical length not indicated. It is recognised that some women are transferred for indications where these tests are not indicated such as pre-eclampsia or severe fetal growth restriction with

abnormal fetal dopplers. In these cases a decision to transfer will be made between the referring and accepting obstetric team at consultant level.

4.5.4.7. If a woman is felt to be too unstable to transfer then this decision should be reconsidered at intervals of no longer than 6 hours and if the clinical situation changes to permit transfer this should be facilitated as soon as possible

4.6.4.8. Cases where there is uncertainty whether to transfer complex cases. There may be times when discussions are required between referring and receiving obstetric and neonatal teams prior to transfer. Embrace can facilitate these discussions using multidisciplinary call conferencing facilities with digital recording.

5. Transfer for a maternal indication

5.1. The maternal condition must be such that it is safe for the women to be transferred. The ambulance crew and midwife cannot be expected to deal with women with unstable blood pressure or with a significant ante partum haemorrhage. The women must therefore be in a stable condition prior to transfer.

5.2. There may be occasions where the woman needs to stay at the current hospital due to certain maternal conditions (e.g. severe liver or renal disease) and therefore require specialist MDT care. This should be discussed with the neonatal team as it may mean that a preterm baby will need to be transferred ex-utero for maternal safety.

6. Transfer for specialist paediatric services

6.1. In this situation assuming there are no maternal issues the only major concern is ensuring that delivery does not occur en route. It would be far more sensible, for example, to deliver a baby with a known cardiac defect in the local hospital and then stabilise the baby pre transfer than for it to deliver en route.

7. Is the in-utero transfer feasible?

7.1. This realistically depends on the time taken to arrange and execute travel. As some transfers can take longer to arrange and the transfer time itself can be

lengthy, the in-utero transfer may become impracticable. If this is the case please keep the Embrace cot bureau informed.

8. Management prior to in-utero transfer

8.1. The referring unit is responsible for the safe, efficient and rapid transfer. In particular if the transfer has taken time to arrange a reassessment of the case, including a repeat vaginal examination if appropriate, should occur prior to transfer.

8.2. The receiving unit obstetric registrar, neonatal unit, and delivery suite coordinator should be informed of the indication for transfer and be fully aware of the clinical history. The need for the obstetric consultant to be informed will depend on the individual case. For example we would expect both obstetric consultants to be involved in the transfer of severe PET at 24 weeks but in the main would not expect this for the transfer of an otherwise uneventful 34 week preterm labour with a cephalic presentation.

[8.3.](#) A photocopied set of case notes should be sent with the woman along with her hand held notes. In women who do not deliver the hand held notes must be sent home with the woman, along with information about treatment and plans made during the admission. Appropriate follow up should be arranged. When delivery has occurred it is still important to inform the referring hospital and again a clear plan needs to be made with regard to required follow up.

~~8.3.~~[8.4.](#) If the unborn baby is subject to a child protection plan or if there is Children's Social Care involvement, the receiving hospital needs to be made aware of this. The relevant Social Worker should be informed that the woman will be moving out of area for a temporary period.

9. Transfer back to the original referring unit in cases where delivery does not occur and continuing care is required.

9.1. As a general rule, 48 hours after transfer, if delivery is not imminent and there are no active problems that would contraindicate a journey, transfer back to the original unit for expectant management (whether as in or outpatient) should be considered and facilitated.

9.2. It is advised that this discussion occurs between the on call consultants for each unit as the transfer back will usually be within normal working hours.

The receiving doctor will then ensure that communication occurs to their relevant colleagues within the unit and confirm follow up for the patient.

- 9.3. The consultant referring the patient back to their original unit will provide a clear written discharge plan. This should also be copied to the patient's own consultant so that they are aware of the management plan for continuing care.

Appendix 1**Transfer Thresholds for In-Utero and Postnatal Babies****Known major abnormality, any gestational age**

- Leeds General Infirmary
- Sheffield, Jessop Wing

Level 3 'Tertiary' centres (Neonatal Intensive Care Units)

- | | |
|----------------------------|--------------------------|
| • Leeds General Infirmary | • Hull Royal Infirmary |
| • Bradford Royal Infirmary | • Sheffield, Jessop Wing |

In-Utero transfers:

- Less than 27 weeks - singletons
- Less than 28 weeks - twins
- Estimated birth weight less than 800g (any gestation)

Postnatal Babies

- Less than 27 weeks - singletons
- Less than 28 weeks - twins
- Birth weight less than 800g (any gestation)
- Any baby needing more than 48hrs of ventilation to be discussed
- Any baby requiring complex intensive care with symptoms of multi organ failure

Level 2 (Local Neonatal Unit)

- | | |
|-------------------------------|----------------|
| • Calderdale – cooling centre | • Scunthorpe |
| • St James, Leeds | • Grimsby |
| • Pinderfields | • Doncaster |
| • York | • Chesterfield |
| • Airedale | • Rotherham |
| • Barnsley | |

In-Utero transfers:

- 27 weeks and over - singletons
- 28 weeks and over - twins
- Estimated birth weight must be more than 800g

Postnatal Babies

- 27 weeks and over corrected gestational age - singletons
- 28 weeks and over corrected gestational age - twins
- Current weight must be more than 800g

Level 1 (Special Care Unit)

- Dewsbury
- Harrogate
- Scarborough
- Bassetlaw

No In-utero transfers to a level 1 Centre.**Postnatal Babies:**

Full feeds and classified as special care
 32 weeks and over corrected gestational age
 Can discuss babies more than 30 weeks
 corrected gestational age if consultants are in
 agreement

Appendix 2

IN-UTERO																																																		
EMBRACE NUMBER				2	0	1	8	PATIENT NAME																																										
NHS NO.																DOB	D	D	M	M	Y	Y	Y	Y	DATE	D	D	M	M	2	0	1	8																	
Pregnancy details																																																		
Gestation:		weeks		<input type="checkbox"/> Primip <input type="checkbox"/> Multip		Presentation: <input type="checkbox"/> Cephalic <input type="checkbox"/> Breech																																												
				Gravida:.....		Para:		<input type="checkbox"/> Other																																										
Singleton				<input type="checkbox"/> Yes <input type="checkbox"/> No		Multiples <input type="checkbox"/> Number:.....																																												
Problems in pregnancy																																																		
Hypertension				<input type="checkbox"/> Yes <input type="checkbox"/> No		If yes:		Most recent BP/.....				Proteinuria																																						
At risk of pre term labour (only ask if <37 wks)				<input type="checkbox"/> Yes <input type="checkbox"/> No		If yes:		Antenatal steroids: <input type="checkbox"/> Yes <input type="checkbox"/> No				If yes date/time last dose:.....																																						
								Tocolysis: <input type="checkbox"/> Yes <input type="checkbox"/> No				Name:																																						
								Fibronectin: positive/negative/not done																																										
If <30 weeks have you given Magnesium:				<input type="checkbox"/> Yes <input type="checkbox"/> No																																														
Rupture of membranes:				<input type="checkbox"/> Yes <input type="checkbox"/> No		If yes:		Date:																																										
Any signs of maternal infection				<input type="checkbox"/> Yes <input type="checkbox"/> No		If yes:		Maternal pyrexia: <input type="checkbox"/> Yes <input type="checkbox"/> No				Highest temp °C																																						
								Maternal antibiotics <input type="checkbox"/> Yes <input type="checkbox"/> No				Name:																																						
								CRP:				(number)																																						
Established labour				<input type="checkbox"/> Yes <input type="checkbox"/> No		If yes:		Cervical dilatation				cm																																						
								Contracting: <input type="checkbox"/> Yes <input type="checkbox"/> No				1 in																																						
Any significant bleeding				<input type="checkbox"/> Yes <input type="checkbox"/> No																																														
Fetal scans/growth problems:																																																		
																Intra-uterine growth retardation (IUGR)		<input type="checkbox"/> Yes <input type="checkbox"/> No		Estimated weight, if known																														
																								g																										
																Doppler abnormality		Absent EDF / Reduced EDF																																
																Anomaly scan details:																																		
Is referring clinician aware of possibility that bed might be out of region? <input type="checkbox"/> Yes <input type="checkbox"/> No																																																		
Any additional relevant information regarding this referral? (clinical or non clinical)																																																		
Reason for referral																																																		
<input type="checkbox"/> Capacity <input type="checkbox"/> Uplift in Care																																																		