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In utero transfers require national standards and regular audit

Antenatal transfer may be undertaken for a variety of reasons. Identification of a fetal anomaly may prompt 'cold' antenatal referral for further management to a centre with fetal medicine expertise, and acute transfers may take place from midwifery- to consultant-led obstetric units if concerns arise during labour. In contrast, acute antenatal transfer between consultant-led obstetric units has evolved alongside regionalisation of perinatal services and is a means of providing immediate access to specialist (usually tertiary) perinatal care for pregnant women and their infants. Despite this being accepted practice little or no standardisation exists either between countries or even between regions. Whilst this may possibly reflect different provision of perinatal services (and in particular neonatal cots), it may also simply arise from an individual clinician's choice when faced with the potential delivery of a significantly preterm infant.

Several factors have been demonstrated to reduce the use of acute antenatal transfer, including increased distance from a regional centre¹ and increased availability of neonatal transfer services². Any attempt to understand reasons for the differences in approach to acute antenatal transfer is compounded by the lack of routinely collected data concerning rates of and outcomes following antenatal transfer in most regions.

Acute antenatal transfer between consultant-led obstetric units may be performed either for maternal or fetal reasons. The majority however are for anticipated neonatal intensive care following the onset of preterm labour or if there is a perceived high risk of imminent preterm delivery as a consequence of preterm rupture of the membranes or pre-eclampsia. With this in mind it is important that careful consideration is given to perceived benefits of transfer, as potential significant disadvantages to the mother include medical complications (hypertensive crisis, eclampsia, haemorrhage) and social dislocation from support networks with consequent 'knock-on' effects on for example, child care. Delivery during transfer may clearly be hugely detrimental to the infant, although most studies support the view that with appropriate management of the transfer process this should occur rarely, if at all.

Whilst a widely-held view is that the uterus is the ideal 'transport system' for babies, there are data suggesting that a small proportion of transfers result in acute onset of fetal distress, necessitating delivery soon after transfer¹. Other data suggest that when corrected for gestation and

birth weight, apparent differences in survival by place of delivery disappear³.

When considering acute antenatal transfer it is essential that clinical staff discuss their decision-making process with the mother, taking the above factors into account. The availability of near patient testing for cervical fibronectin adds useful information on the likelihood of imminent delivery. Data from population-based studies such as EPICURE give a clear indication of the lower limit below which the benefits of antenatal transfer are minimal. Network-based mortality data will likewise suggest a pragmatic upper gestational age limit, where survival to discharge is similar between tertiary and non-tertiary centres. What is missing from the decision-making process are population- or network-based outcome data concerning the not inconsiderable proportion of women who undergo acute antenatal transfer, but do not subsequently deliver. This not only affects the women undergoing transfer but also the centres which accept these referrals. Filling antenatal beds with women who 'may' deliver will have a consequent effect on the potential availability of local neonatal intensive care cots, increasing the likelihood of long distance transfers. Faced with this possibility and in the absence of supporting data on which to make a balanced decision, the likelihood of maternal refusal to undergo transfer to a distant centre will increase.

BAPM has recently published a framework document to enable regional development of guidelines for acute antenatal transfer⁴. The considerable feedback received during development of the framework document confirmed differences in obstetric practice across the UK. Whether this simply reflected individual clinicians' preferences or perinatal service provision is unclear. The current Department of Health Taskforce for neonatal care has as part of its remit an important opportunity to mandate both standards for and audit of acute antenatal transfer. This is the only way to standardise and therefore improve this important component of perinatal care. The benefits of this will be felt not only by the women undergoing transfer but by perinatal services in general. A standardised approach to acute antenatal transfer of women most likely to imminently deliver infants who will benefit from tertiary neonatal care, will enable neonatal intensive care cots to be utilised more effectively in addition to reducing numbers of inappropriate transfers.

References

1. **Fenton A.C., Ainsworth S.B., Sturgiss S.N.** Population-based outcomes after antenatal transfer. *Paediatric Perinatal Epidemiol* 2002; **16**: 278-85.
2. **Kempley S.T., Baki Y., Hayter G., Ratnavel N., Cavazzoni E., Reyes T.; Thames Regional Perinatal Group; Neonatal Transfer Service for London, Kent, Surrey and Sussex.** Effect of a centralised transfer service on characteristics of inter-hospital neonatal transfers. *Arch Dis Child Fetal Neonatal Ed* 2007; **92**(3): F185-8.
3. **Beverley D., Foote K., Howel D., Congdon P.** Effect of birthplace on infants with low birth weight. *BMJ* 1986; **293**: 981-83.
4. **British Association of Perinatal Medicine.** Management of acute in-utero transfers: a framework for practice. June 2008. www.bapm.org/media/documents/publications/IUTs%20Jun08%20final.pdf