

HYPOXIC RESPIRATORY FAILURE IN TERM AND NEAR TERM NEWBORNS: PERSPECTIVE FROM THE NEONATAL TRANSFER SERVICE

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Background: Transfer for increased level of care of newborns with Hypoxic Respiratory Failure (HRF) is common, and can often be challenging. The data available regarding the transfer of these newborns is limited (1). Newborns with a persistently higher oxygenation index (OI>25) may require ECMO, thus affecting destination.

Aim: To assess the efficacy of management by the transport team and to evaluate predictors for newborns who will have a persistently high OI.

Method: Retrospective data was collected for all term and near term babies with HRF who had arterial access at referral and who were transferred by The London Neonatal Transfer Service.

Results: 81 newborns of median(range) gestation 40(34-42) weeks, birthweight 3.3(2-4.4)kg and age of 7(2-71)hours with HRF were transferred. Management included ventilatory adjustments, sedation, paralysis, inotropes and use of inhaled nitric oxide (iNO) (60/81 infants). There was a significant improvement in OI during stabilisation and transfer by transport team from arrival to departure (Repeated measure ANOVA: F=3.7, p=0.03).

	At telephone referral (n=79)	At arrival of transport team (n=79)	At departure from referring unit (n=77)	Upon arrival at receiving unit (n=61)
OI (mean±SD)	28±14	28±17	22±17	21±14
Number of infants with OI>25	43	41	27	20

[Table: OI at diferent stages of transfer process]

On logistic regression MAP, PEEP, arterial pH and FIO₂ at referral were significant predictors for infants with persistently raised OI >25 at departure.

Conclusions: Interventions including use of iNO during transport results in improvement in oxygenation in babies with HRF. It may be possible to identify infants with a persistently raised OI at referral.

References: 1. Kinsella et al, Pediatrics 2002;109:158-161.