Expected pathways of care in the Northern Neonatal Region: Guidance for NNeTS IUT/EUT process for babies 36^{+6} weeks or less, and 37 weeks or more

The following guidance is to assist the NNeTS team as to where to look first for selecting a receiving unit at time of referral of IUT or EUT based on pathways of care agreed by the Northern Neonatal Network Board. Concerns about where there might be a receiving unit **should not delay** dispatch of the NNeTS team to an EUT referral where the baby is unwell.

The two principles inherent in this guidance are (in order of application):

1) If there is a specific need for a specialist service then the unit approached should be the unit which provides it (e.g. paediatric surgery or cardiology). For these transfers, inability to find a space in the specialist unit may then necessitate the exploration of out-of-region IUT or EUT.
2) Where more than one unit provides the required level of care (e.g. NICU at SRH, JCUH, RVI) the unit to be approached first is as outlined below based on agreed patient flow pathways in the region (table 1). If the primary receiving unit cannot or declines to accept the transfer the reason must be documented in the referral book and other units approached as per '3' (below).
3) If the first choice (per pathway) unit is not available, **the next appropriate unit closest** to the referring unit should be chosen as the primary receiving unit. If they decline to accept, the reason must be documented in the referral book and other units approached until a cot in a suitable level of NNU has been found.

The NNeTS consultant on call *may* elect to choose a different primary or secondary transfer pathway from the agreed pathways of care in *rare* circumstances. In these circumstances, again, the reasons for the decision about receiving centre **must** be documented clearly in the referral book.

Monitoring

As this guidance embeds, the patient flow using these criteria for transfer will be audited by the Network data manager and reported to the Clinical Lead of the Northern Neonatal Network on a monthly basis.

From 01/08/23, NNeTS **will** contact receiving centres at the time an IUT or EUT referral is made, as per pathways of care in this document, *regardless* of reported cot or delivery suite status at twice daily ring-round.

If the primary receiving centre, as per the agreed pathway, then refuses to accept the IUT/EUT this will be recorded in writing, timed and dated, in the IUT/Acute uplift book (as appropriate) with a clear reason noted for **why** the referral has been declined.

Northern Neonatal Network

NNeTS Northern Neonatal Transport Service

Table 1:

Usual destination centres for IUT referrals/EUT uplifts across the NNN (2023 onwards):

Referring centre*+	**1ary Receiving centre** (for 2ary destinations see above)
Babies 25+6 weeks gestation or less at time of referral (IUT or EUT)	
CIC, SRH, QEH, NSECH, UHND	**RVI** (NICU)
DMH, UHNT, WCH	**JCUH** (NICU)
Babies 26+0 weeks to 36+6 weeks gestation at time of referral (IUT or EUT)	
QEH, NSECH, UHND, CIC	**SRH** (LNU)
DMH, UHNT, WCH	**JCUH** (NICU)
Babies 37+0 weeks gestation or more at time of referral (IUT or EUT)	
DMH, UHNT, WCH	**JCUH** (NICU)
QEH, NSECH, UHND, CIC	**RVI or SRH** (depending on availability of ITU/HD cots at the required level of acuity)
Specialist referrals needing:	**Receiving centre**
Paediatric cardiology, cardiothoracic surgery, or ECMO	**FRH (liaise via NNeTS)** Note: if referral for possible ECMO, dispatch NNeTS team as per immediate dispatch criteria, then NNeTS consultant to request ECMO conference call via NECTaR process
Paediatric surgery/urology, Respiratory, Neurosurgery or Otolaryngology	**RVI NICU *or* Paeds GNCH** (e.g. Paeds ED or PICU) ***OR*** (out of region): Leeds General Infirmary (NNeTS/Embrace), Glasgow (NNeTS/ScotSTaR)
Hepatology	Leeds General Infirmary (NNeTS/Embrace)
***For IUT referrals OR capacity EUT from level 1 centres:** moves of SCU babies >30 weeks and >1.5kg estimated fetal/actual weight, consider IUT or EUT to the nearest level 1 centre with NNU cots *rather* than uplift to a level 3 NICU. Needs NNeTS Consultant agreement.	
+For IUT or EUT referrals out of a level 3 unit consider likely need for specialist services or not, and cot availability across the region in making decision. Needs NNeTS consultant agreement.	

Explanatory notes:

Intrauterine transfer of a mother/baby to a Neonatal Unit at the correct level of anticipated care required, should be made using the agreed regional pathway of care guidance laid out above, based primarily on gestational age.

On occasions where the primary receiving centre (the 'usual destination centre') is unable to take the transfer, IUT to the NNU of the correct level that is **closest** to the referring unit or family home is usual. This is in line with the core Northern Neonatal Network principle of care that a family should be looked after at the correct level of care *closest* to their home whenever possible. It should be noted that at most only around 1 in 3 IUTs lead to delivery within 24 hours of the IUT being completed. For that reason, the apparent number of cots available at other centres should **not** routinely be in any consideration of destination for IUT referrals or override the principle of the pathway-appropriate move.

The exception to this rule is where a *non-surgical* IUT *could* be looked after at the RVI NICU but would **fill** the last ITU cot if it delivered. In this circumstance it is acceptable to look to SRH (26^{+0} weeks or more) or JCUH (all viable gestations) for a cot *before* potentially filling the last ITU cot at the RVI. This requires the agreement of the NNeTS and RVI NICU consultants, and the reason should be documented in the referral paperwork. Where the RVI ITU cot is the last in region, then the IUT should always be completed in preference to the mother/baby being transferred out of region.

Extrauterine transfer (EUT) follows the same principles as for IUT, following the agreed NNN pathways if possible. It is best practice (especially in moving preterm babies) to minimise the 'on the road' transport time where the primary receiving centre (the 'usual destination centre') choice is unable to receive the baby: wherever and whenever possible, moving a baby to a unit at greater distance by driving past a unit that could provide the required level of care should be avoided in these cases. Where a *capacity* move of a SCU baby is required, the geographically closest SCU should be chosen.

The exception to this rule is where a non-surgical EUT *could* be looked after at the RVI NICU but would **fill** the last ITU cot if admitted. In this circumstance it is acceptable to look to SRH (26^{+0} weeks or more) or JCUH (any viable gestation) for a cot before potentially filling the last ITU cot at the RVI. This requires the agreement of the NNeTS and RVI NICU consultants, and the reason should be documented in the referral paperwork. Where the RVI ITU cot is the last in region, then the EUT should always be completed in preference to the mother/baby being transferred out of region.

Imports from outside NNN into the region With respect to IUTs being admitted from out of region: as a rule there need to be more than 3 ITU cots available in region (equivalent to one for each NICU, even if not located equally across the units) to accept the IUT. For EUTs from out of region, this threshold drops to there being more than one ITU cot available. **ALL** out of region IUTs/EUTs should come through NNeTS (i.e. not to potential receiving units direct) and will usually require discussion with the NNeTS consultant on call before deciding on course of action.

Maternity unit workload

The LMNS Preterm Birth Pathway (regional guidance) states:

"Where NNU capacity exists, there is a regional Maternity Unit policy of 'auto-acceptance' unless the receiving unit is closed to all admissions. Any Obstetric refusal for IUT should be made by the Consultant Obstetrician at the receiving unit. Liaison with the NNeTS Consultant may be required."

A refusal **cannot** be made by the delivery suite coordinating midwife alone without the obstetric consultant being consulted and taking responsibility for that decision. If a maternity unit cannot accept the IUT then they should have escalated this as their unit being effectively closed in line with LMNS escalation pathways. In these cases the first approach suggested by NNeTS should be for the NICU consultant who has accepted the IUT to discuss with their obstetric colleagues about accepting the IUT, and clarifying if the maternity unit is closed (with appropriate escalation in place as per the established regional maternity guidance).