## Contents

1. INTRODUCTION
   1.1 Overview of the study design 1
   1.2 Organisation 3

2. CONTACTS FOR THE STUDY 3
   - Newcastle 4
   - London 4
   - Glasgow 4
   - Leicester 4
   - Emergency Contact Details 5

3. BRAIN IMAGING FOR THE NEST STUDY 5
   3.1 Cranial Ultrasound Examinations 5
   3.2 Magnetic Resonance (MR) Brain Imaging 8

4. DATA COLLECTION 12
   4.1 Transfer of a baby recruited to NEST 12
   4.2 Transfer of a baby into your hospital 12

5. SERIOUS ADVERSE EVENT/ SUSPECTED UNEXPECTED SERIOUS ADVERSE REACTION REPORTING 13
   - Definition of SAE and SUSAR 13

6. CONTACT WITH PARENTS 14

7. DEFINITIONS OF TERMS IN TRANSFER HOSPITAL DISCHARGE FORM 14
This Handbook contains information about the NEST Study which is a randomised controlled trial of mild hypothermia for babies who have received ECMO support.

The Handbook should contain all the information you require about the study justification, the study procedures and about the process of on-going data collection about these babies which we hope you will contribute to. If you require any further information please see the NEST Study website at: www.npeu.ox.ac.uk/nest.

We are very grateful for all the help and support given to us by neonatologists and neonatal nurses throughout the UK in helping us address this important question. If we can be of help in any way please feel free to contact us. The various methods of contacting us can be found on page 6-8.

1. INTRODUCTION

Existing evidence indicates that once mature neonates with severe cardio-respiratory failure become eligible for ECMO their chances of intact survival are doubled if they actually receive ECMO. However, significant numbers survive with disability. NEST is a multi-centre prospective randomised trial designed to test whether, in neonates requiring ECMO, cooling to 34°C for the first 48 to 72 hours of their ECMO course leads to improved later health status. Control infants will receive ECMO at 37°C throughout their course, which is current normal practice around the world. Health status of both groups will be determined formally at 2 years of age.

1.1 Overview of the study design

Eligibility:

Babies are eligible for inclusion in NEST if:

- they are referred for ECMO (based on the decision of the clinician responsible for the child’s overall care)
- they meet the standard criteria for the use of ECMO
- they are less than 29 days of age.

Exclusion criteria for the NEST Study:

- All neonates referred with diaphragmatic hernia.
- All neonates receiving ECMO for post operative cardiac support.

Recruitment and randomisation:

Babies are recruited only after informed consent has been obtained from the parent(s).

Interventions and clinical management:

The normothermic group receive ECMO at 37°C ± 0.2°C.

The cooled group are managed at 34°C ± 0.2°C for up to 72 hours from the start of their ECMO run. The minimum duration of cooling is 48 hours. Rewarming (to 37°C) occurs at a rate of no more than 0.5 °C per hour.

All other aspects of ECMO management are identical in both groups.
**Primary Outcome:**
The primary outcome of the study is the MDI of the Bayley scales of the surviving children in each arm of the study at the age of 2 years (24 - 27 months).

*Note: Where the MDI cannot be assessed because of severe disability or death, a score of either 40 or 0 will be recorded respectively.*

**Secondary outcomes:**
- death
- a global neurological score (optimality score)
- Parent Report of Children’s Abilities, PARCA
- PDI of the Bayley scales
- Visiospatial function
- Child behaviour rating
- Cerebral Palsy
- Measures of growth – height, weight and head circumference

**Sample Size**
Study size estimates have been made based on potential differences in the MDI of the Bayley scores at two years.

The table below gives a range of calculations based on variations in the mean scores and standard deviations of these scores.

The first of these options (requiring the recruitment of 118 infants) offers a realistic recruitment target whilst also giving 90% power to detect a significant difference between the two arms (at the 5% level). The choice of 85 and 95 as the two Bayley scores on which to derive the trial size is based on: a) what might be considered a clinically significant outcome and b) existing knowledge of ECMO survivors.

<table>
<thead>
<tr>
<th>Assumed mean scores of the two arms</th>
<th>Assumed SD of Bayley MDI scores</th>
<th>Total sample size required for 90% power</th>
<th>Number needed to be recruited assuming 80% survival to 2 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>85 &amp; 95</td>
<td>15</td>
<td>94</td>
<td>118</td>
</tr>
<tr>
<td>85 &amp; 95</td>
<td>10</td>
<td>42</td>
<td>53</td>
</tr>
<tr>
<td>90 &amp; 95</td>
<td>10</td>
<td>168</td>
<td>210</td>
</tr>
</tbody>
</table>

**Analysis**
The primary analysis will be an intention-to-treat analysis, comparing the outcome of all babies allocated to “ECMO with cooling” with all those allocated to “ECMO” alone.
1.2 Organisation

- Project management group - A core team of individuals will liaise regularly regarding the general progress and management of the study. This will normally occur by teleconference every 6 weeks.

- Trial Steering Committee - The Trial Steering Committee will provide overall supervision of the study on behalf of the British Heart Foundation (the funder of the study). Meetings will occur annually.

- Data Monitoring Committee – This committee will be independent of the study organisers and will meet annually.

- Sponsor – The study is sponsored by The University Hospitals of Leicester NHS Trust.

For more details of the background to the study and the study design, please refer to the protocol which can be accessed at www.npeu.ox.ac.uk/nest.

2. CONTACTS FOR THE STUDY

The Chief Investigator and Clinical lead in Leicester is:

Professor David Field  
Consultant Paediatrician  
Leicester Royal Infirmary  
Infirmary Square  
Leicester  
LE1 5WW

Tel: 0116 258 5822 direct line,  
0116 287 1471 hospital,  
0116 258 7707 secretary

Email: david.field@uhl-tr.nhs.uk

The study is co-ordinated by:

Denise Jennings  
NEST Co-ordinating Centre  
National Perinatal Epidemiology Unit  
University of Oxford  
Old Road Campus  
Headington  
Oxford  
OX3 7LF

Tel: 01865 289737  
Fax: 01865 289740  
Email: nest@npeu.ox.ac.uk

In each of the four ECMO centres, there is a lead clinician and a designated ECMO specialist responsible for the study.
Newcastle
Dr Jane Cassidy (PI)
Consultant Paediatric Intensivist
PICU
Freeman Hospital
Freeman Road
High Heaton
Newcastle-upon-Tyne, NE7 7DN
Tel: 0191 2336161 x 48375
Email: jane.cassidy@nuth.nhs.uk

Caroline McPherson (ECMO Specialist)
PICU
Ward 28
Freeman Hospital
Freeman Road
High Heaton
Newcastle-upon-Tyne, NE7 7DN
Tel: 0191 2336161
Email: caroline.mcpherson@nuth.nhs.uk

London
Dr Aparna Hoskote (PI)
Consultant Cardiac Intensivist
Level 7, Nurses Home
Great Ormond Street Children’s Hospital
Great Ormond Street
Bloomsbury
London, WC1N 3JH
Tel: 020 7405 9200 x5492
Email: HoskoA@gosh.nhs.uk

Ms Liz Smith (ECMO Specialist)
ECMO Coordinator
ECMO Office, Room 6060,
Level 6, Nurses Home
Great Ormond Street Children’s Hospital
Great Ormond Street
Bloomsbury
London, WC1N 3JH
Tel: 020 7813 8180 or
Tel: 020 7813 8400
Email: smithe1@gosh.nhs.uk

Glasgow
Dr Judith Simpson (PI)
Consultant Neonatologist
Royal Hospital for Sick Children
Dalnair Street
Yorkhill
Glasgow, G3 8SJ
Scotland
Tel: 0141 201 0000 page 2221
Email: Judith.Simpson@yorkhill.scot.nhs.uk

Ms Morag Liddell/ Ms Gillian Wylie (ECMO Specialist)
Ward 2B
Royal Hospital for Sick Children
Dalnair Street
Yorkhill
Glasgow, G3 8SJ
Scotland
Tel: 0141 201 0000 page 2888
Email: morag.liddell@yorkhill.scot.nhs.uk
ecls.coordinator@yorkhill.scot.nhs.uk

Leicester
Dr Hitesh Pandya
Children’s Intensive Care Unit
Glenfield Hospital
Groby Road
Leicester, LE3 9PQ
Tel: 0116 287 1471
Email: hitesh.pandya@uhl-tr.nhs.uk

Ms Anne-Marie Hill (ECMO Specialist)
Senior ECMO Specialist/ECMO Educator
Children’s Intensive Care Unit
Glenfield Hospital
Groby Road
Leicester, LE3 9PQ
Tel: 0116 287 1471
Email: anne-marie.hill@uhl-tr.nhs.uk
annmarhil@aol.com
Emergency Contact Details

In an emergency, you can contact us via the bleep system.

**i. By telephone:**

Telephone **07623 947508**, hold to speak to an operator and then leave the following message:

“Please phone <YOUR NAME>, at <YOUR HOSPITAL>, on <YOUR FULL TELEPHONE NUMBER>** about NEST”.

This option is available 24 hours a day, seven days a week and you should receive a return call within a few minutes.

**Please remember to give the national dialling code. DO NOT give the number of the busiest telephone on the unit; another call might block the line when we are trying to call you back!**

**ii. Via the internet:**

This will be faster than option iii (email)

Log on to the Paging Website at [www.npeu.ox.ac.uk/pager](http://www.npeu.ox.ac.uk/pager)

Enter your email address in the box as requested.

Enter the following message in the <Message> box:

“Please phone <YOUR NAME>, at <YOUR HOSPITAL>, on <YOUR FULL TELEPHONE NUMBER>** about NEST”

Click on “Send pager message”.

This activates the pager (as in option i) and we will ring you back.

**iii. By sending an Email:**

Send an email to **947508.corep@p1c.net**

You will receive an email acknowledgement that the message has been accepted. Do remember that this method depends on the speed with which your Internet Service Provider delivers your message. The total message size is limited to 175 characters. Again, this activates the pager (as in option i) and we will ring you back.

Whichever method of contact you use you should receive a reply within 15 minutes of the message acknowledgement. If you do not get a response then we suggest that you try again and wait for another 15 minutes. If there is still no reply then telephone the following number: **07885 720537** (you might occasionally be diverted to voice mail but we will respond as soon as we get your message).

3. BRAIN IMAGING FOR THE NEST STUDY

3.1 Cranial Ultrasound Examinations

We request that a cranial ultrasound scan is performed on all babies 3-6 weeks after ECMO looking for any signs of focal change or generalised atrophy (enlarged extracerebral space (ECS), interhemispheric fissure (IHF), dilated ventricles, cerebellum not well seen). We ask that
you measure the baby’s head circumference at the same time and record this information on the
scan print out as well as in the baby's notes. The process of the cranial ultrasound is described here:

i. Check for normal anatomy or evidence of longstanding damage/atrophy/calcification (see
   page 10).

ii. Please take at least 6 coronal and 7 sagittal/parasagittal views (see page 11).

iii. Classification of haemorrhage and major parenchymal abnormality

**Haemorrhage** (from Volpe JJ 1995)
- Grade I  Germinal matrix haemorrhage (GMH) with no, or minimal intraventricular
  haemorrhage (IVH)
- Grade II  GMH + IVH (10-50% on parasagittal view)
- Grade III  GMH + IVH (> 50% + acute dilatation)

**Parenchymal abnormality** (note side and site)
- Parenchymal haemorrhage adjacent to the ventricle (grade IV)(venous infarction /
  haemorrhagic parenchymal infarction)
- separate focal haematoma in the cerebral hemisphere
- focal echogenicity in the parenchyma ? infarction
- haemorrhage in the posterior fossa

Please make a copy of any scans you do on to a CD if possible. If this is not possible please
make two paper copies.

Send these to:

Denise Jennings  
NEST Co-ordinating Centre  
National Perinatal Epidemiology Unit  
University of Oxford  
Old Road Campus  
Headington  
Oxford, OX3 7LF

For any queries contact:

Dr Frances Cowan  
Dept of Paediatrics  
5th floor Ham House  
Hammersmith Hospital  
Du Cane Rd  
London, W12 OHS  
Tel: 0208 383 8515 (secretary)  
Tel: 0208 383 1000 bleep 9850  
Fax: 0208 383 2473  
Email: f.cowan@imperial.ac.uk
<table>
<thead>
<tr>
<th>Check list of items to look for on any cranial US examination</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Anatomy</strong></td>
</tr>
<tr>
<td>• Gyri – coronal and sagittal views – do not forget extreme parasagittal views for the Sylvian fissure</td>
</tr>
<tr>
<td>• Corpus callosum - mid-sagittal view - check for completeness</td>
</tr>
<tr>
<td>• Cerebellum – mid-sagittal for vermis (height about 25 mm at term) and 4th ventricle; coronal view just behind thalami for maximal cerebellar width – transverse width (mm) should be on average 50 mm in the term infant and always greater than the gestational age in weeks.</td>
</tr>
<tr>
<td>• Cavum septum pellucidum – coronal view small triangular shape – not large and rectangular</td>
</tr>
<tr>
<td>• Lateral ventricular shape – smooth walled and minimal dilatation</td>
</tr>
<tr>
<td>• 3rd ventricle – barely visible except more anteriorly</td>
</tr>
<tr>
<td><strong>Non-anatomical abnormality</strong></td>
</tr>
<tr>
<td>• Parenchymal cysts or abnormal echogenicity on first scan suggestive of an antenatal insult.</td>
</tr>
<tr>
<td>• Cysts in region of caudothalamic notch (sub-ependymal or germinolytic cysts) – more common in viral and metabolic disease and chromosomal abnormality</td>
</tr>
<tr>
<td>• Calcification, lenticulostriate vasculopathy (LSV) – more common in viral and metabolic disease and chromosomal abnormality</td>
</tr>
<tr>
<td>• GMH/IVH – see page 9</td>
</tr>
<tr>
<td>• Parenchymal abnormality - note its timing and evolution</td>
</tr>
<tr>
<td>e.g.</td>
</tr>
<tr>
<td>• generalised swelling +/- loss of grey-white matter differentiation</td>
</tr>
<tr>
<td>• haemorrhage</td>
</tr>
<tr>
<td>• focal unilateral echogenicity (infarction)</td>
</tr>
<tr>
<td>• bilateral basal ganglia /thalamic echogenicity</td>
</tr>
<tr>
<td>• bilateral white matter echogenicity</td>
</tr>
<tr>
<td>• abnormally bright or thickened cortex</td>
</tr>
</tbody>
</table>

**Evidence of atrophy**

Increased extracerebral space, widened interhemispheric fissure, large cisterna magna, increasing dilatation of the lateral ventricles without ballooning or IVH or without increase in head circumference, later dilation of the 3rd ventricle.
### Table 2

**Ultrasound scanning views – via anterior fontanelle**

- **Coronal**
- **Mid coronal**
  - through the Foramen of Monro, T shape of Sylvian fissures and temporal horn
- **Anterior Coronal**
  - through the anterior horns
  - anterior to anterior horns through the frontal lobes
- **Posterior Coronal**
  - through the posterior basal ganglia
  - through the thalami and cerebellar hemispheres
  - through the posterior horns of the lateral ventricles and occipital lobes
  - posterior to ventricles parieto-temporal white matter
- **Sagittal**
  - mid-line to show the corpus callosum, the 3rd and 4th ventricles, the vermis of cerebellum and the midline gyri
- **Parasagittal - both sides**
  - through the caudo-thalamic notch to look for cysts
  - through the basal ganglia/thalami and cerebellar hemispheres
  - through the white matter
  - through the Sylvian fissure

**Supplementary acoustic windows**

Axial views though the temporal windows or mastoid windows and posterior views though posterior fontanelle can be tried if better views of the brainstem, posterior fossa, cerebellum or posterior white matter are needed.

### 3.2 Magnetic Resonance (MR) Brain Imaging

#### i. Optimal time for scanning

We request that all babies in NEST have an MRI in the first month after birth (or from the time of ECMO if that is not in the first week after birth), before any tissue atrophy related to peri-ECMO insults has begun. Another reason for early scanning is that round 2-3 post-natal months the T1 and the T2 properties of the brain tissues begin to change making interpretation of tissue signal characteristics more difficult.

An MRI scan for these babies is helpful for providing parents with prognostic information.

In addition, it would be very useful to know if early MR imaging post ECMO is predictive of outcome, so imaging as many infants as possible in the first month would be very instructive. We know that after hypothermia for perinatal hypoxic-ischaemic insults MR imaging shows detectable changes in MR images\(^1\). Experience from non-cooled term infants shows that patterns of injury seen on neonatal MR scans correlate well with outcome.

However, if it is not possible to scan neonatally then do an MR scan as soon as possible in the post-neonatal period.
ii. Magnet hardware

Use whatever magnet you have available to you but try and use as small a coil as possible to gain maximum signal to noise. An adult knee coil is great. A sense head coil made for adults will also suffice.

iii. Scan preparation

Most neonates and young infants can be imaged using oral sedation with chloral hydrate. All infants should:

- be assessed pre-MR for fitness for sedation
- have pre-sedation /anaesthetic measure of weight, heart rate, respiratory rate, temperature and oxygen saturation documented
- have all metal removed from them and not be wearing clothes with metal poppers
- be monitored (oxygen saturation and ECG) using MR compatible monitoring during the scan
- have continued oxygen saturation monitoring until awake and able to feed.

Immobilisation during the scan is very important. It usually helps to swaddle the baby and to use foam padding or a pillow from which air can be evacuated to fit snugly around the head. It is usual to position the infants supine but they can be in a lateral position if they find this more comfortable.

Scans are noisy and ear protection is helpful and essential if using EPI sequences. A silicon-based dental putty (President putty, Coltene/Whaledent, 750 Corporate Drive, Mahwah, New Jersey, USA) and mini-muffs (Natus MiniMuffs, Natus Medical Inc, San Carlos, CA, USA) to keep it in place can be used, achieving an attenuation of approximately 30 decibels.

Care needs to be taken that infants do not become too hot or cold. This is usually not a problem for term infants.

iv. Sequences

Sequences need to be adapted for the immature brain. This will usually mean altering the parameters on the preset adult sequences. Suggested parameters are given in the table below for imaging at 1.5 Tesla. Please see below about individual sequences. Do not use an adult protocol.

MR parameters routine clinical examination for a neonate at 1.5 T (taken from reference 3)
<table>
<thead>
<tr>
<th>Sequence</th>
<th>TE (ms)</th>
<th>TR (ms)</th>
<th>TI (ms)</th>
<th>Slice thickness (mm)</th>
<th>nsa</th>
<th>Matrix</th>
<th>FOV (mm)</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>T1 weighted conventional spin echo</td>
<td>15</td>
<td>500</td>
<td>–</td>
<td>4</td>
<td>2</td>
<td>192×256</td>
<td>220–240</td>
<td></td>
</tr>
<tr>
<td>T2 weighted fast spin echo</td>
<td>208</td>
<td>4000</td>
<td>–</td>
<td>4</td>
<td>2</td>
<td>192×256</td>
<td>220–240</td>
<td></td>
</tr>
<tr>
<td>T1 weighted volume acquisition</td>
<td>4.5</td>
<td>30</td>
<td>–</td>
<td>1.6</td>
<td>1</td>
<td>192×256</td>
<td>220–240</td>
<td></td>
</tr>
<tr>
<td>Inversion recovery</td>
<td>30</td>
<td>3500</td>
<td>1000</td>
<td>4–5</td>
<td>2</td>
<td>192×256</td>
<td>220–240</td>
<td></td>
</tr>
<tr>
<td>Diffusion weighted imaging</td>
<td>~6000</td>
<td>~90</td>
<td>4</td>
<td>1</td>
<td>1</td>
<td>112×112</td>
<td>240</td>
<td>b value, 750</td>
</tr>
</tbody>
</table>

- T1 weighted sequence acquired in the transverse plane (a). This is ideal for assessing the basal ganglia and thalami and provides the best views of the posterior limb of the internal capsule. Assessment of the PLIC is very helpful for the prediction of motor outcome.  
- T2 weighted sequence acquired in the transverse plane. This is better than T1 weighted imaging for identifying early ischaemic change and provides excellent grey/white matter contrast in the very immature brain (b).  
- T1 weighted sequence acquired in the sagittal plane. A volume acquisition is ideal as it provides thin slices and can be reformatted into any plane. It can be used for absolute quantification of brain structures.  
- Diffusion weighted imaging which is ideal for early (<1 week) identification of ischaemic tissue.  
- A venogram to exclude the presence of sinus thrombosis and differentiate this from subdural haemorrhage.

In addition the following may be required:

Normal MR appearances of the term neonatal brain. (a) Inversion recovery sequence. Myelin is seen as high signal intensity within the posterior limb of the internal capsule; (b) T2-weighted sequence. Myelin in the posterior limb of the internal capsule is seen as a smaller region of low signal intensity.
• Intravenous contrast, gadolinium dimeglumine gadopentetate at a dose of 0.2 ml/kg, in suspected infection.

• Angiography to look at both cerebral and neck vessels, which may be implicated in focal stroke.

Please make a copy of the MR scan on disc or if this is not possible make a hard copy.

Send these to:

Denise Jennings
NEST Co-ordinating Centre
National Perinatal Epidemiology Unit
University of Oxford
Old Road Campus
Headington
Oxford, OX3 7LF

v. Contacts and advice

We are happy for you to contact us for any scanning related advice:

Prof Mary Rutherford or Dr Serena Counsell
Robert Steiner MR imaging dept, Hammersmith Hospital, London
Tel: 0208 383 3298
Email: m.rutherford@imperial.ac.uk or serena.counsell@imperial.ac.uk

Dr Frances Cowan
Dept of Paediatrics
5th floor Ham House
Hammersmith Hospital
Du Cane Rd
London, W12 OHS
Tel: 0208 383 8515
Fax: 0208 383 2473
Email: f.cowan@imperial.ac.uk

vi. References for Section 3.2


4. DATA COLLECTION

4.1 Transfer of a baby recruited to NEST

It is expected that all babies who survive their ECMO course and the immediate post-ECMO period will be transferred to another hospital for on-going care prior to discharge home.

Some babies are transferred between several hospitals. It is important that data collection is continued for the whole of the baby’s stay in hospital. Each hospital with a baby taking part in NEST is asked to complete the appropriate discharge form when the baby leaves that hospital, whether it is discharged home, transferred to another hospital or dies. Each completed discharge form will include details of the baby’s stay in that hospital only.

Babies that are transferred will therefore have more than one discharge form, each one recording the details of the baby’s stay in one hospital.

To help the receiving hospitals each ECMO centre has been provided with Transfer Hospital Discharge Forms and Transfer Packs. These contain all of the necessary documentation for completing the data collection for a baby who is transferred to a different hospital from the ECMO centre.

The transfer pack contains:

- A list of contents
- Summary Protocol
- NEST Handbook for Transfer Hospitals
- NEST Parent Information Leaflet
- Hospital notes label
- A copy of the Serious Adverse Event/Suspected Unexpected Serious Adverse Reaction Form, in case of serious adverse events in the receiving hospital
- FREEPOST envelope, for return of the Transfer Hospital Discharge Form
- A Going Home Pack, to be given to the parents if the baby is discharged home from the receiving hospital
- NEST Bereavement Leaflet to be given to the parents if the baby dies whilst in the receiving hospital

4.2 Transfer of a baby into your hospital

If a baby that has been recruited to NEST is transferred into your hospital and they have arrived from an ECMO Centre, the baby should arrive with a Transfer Pack. If not, please contact the NEST Co-ordinating Centre on 01865 289737. If you need to contact us out of office hours you can use the contact numbers detailed on page 8 of this handbook.

Please follow these instructions:

i. If the baby has arrived with a Transfer Pack, please check that the following information has been filled in on the Transfer Hospital Discharge Form which arrived with the baby:
   a) Baby’s name
   b) Baby’s date of birth
c) Baby’s NEST study number  
d) ECMO Centre Name  
e) Baby’s case notes number in the ECMO Centre  
f) Transfer Hospital Name  

ii. If the Transfer Hospital Discharge Form details have not been completed, please contact the NEST Co-ordinating Centre and we will provide you with the necessary information.  

iii. Please complete on the Transfer Hospital Discharge Form the baby’s case notes number at your hospital when the baby arrives.  

iv. Please complete the remainder of the Transfer Hospital Discharge Form, answering each question, when the baby is discharged home, undergoes a subsequent transfer or dies. Only events that occurred and treatments that were given IN YOUR HOSPITAL should be recorded on this form.  

v. Once completed, please keep a photocopy of the Transfer Hospital Discharge Form with the baby’s hospital notes and return the original to the NEST Co-ordinating Centre using the FREEPOST envelope provided in the Transfer Pack.  

vi. If the baby is discharged home then please give the parents the Going Home Pack provided in the Transfer Pack.  

vii. If the baby is transferred to another hospital then please telephone the NEST Co-ordinating Centre on 01865 289737 (out of hours follow the instructions detailed on Page 8). We will need to know the following information:  

a) Your name and the hospital you are calling from  
b) Baby’s name  
c) Baby’s NEST study number  
d) Baby’s date of birth  
e) Name of hospital to which the baby is being transferred  
f) The name of the receiving consultant  

5. SERIOUS ADVERSE EVENT/ SUSPECTED UNEXPECTED SERIOUS ADVERSE REACTION REPORTING  

If a serious adverse event or a suspected unexpected serious adverse reaction occurs, it should be reported to the NEST Co-ordinating Centre using one of the Serious Adverse Event / Suspected Unexpected Serious Adverse Reaction Forms in the Transfer Pack. These can also be found at www.npeu.ox.ac.uk/nest  

Definition of SAE and SUSAR  

SAE (Serious Adverse Event): A serious adverse event is one which is not anticipated, not known to be related to the condition being studied or the intervention being used.  

In the context of this study SAE’s will include:  

• Death
• major haemorrhage
• arrhythmias requiring treatment

**SUSAR (Suspected Unexpected Serious Adverse Reaction):** An adverse reaction, the nature or severity of which is not consistent with the expected outcomes of the treatment being offered.

**Action required by clinician(s) in the event of an SAE or SUSAR**

• Complete a copy of the Serious Adverse Event / Suspected Unexpected Serious Adverse Reaction form (within 48 hours)
• Fax it immediately to the NEST Co-ordinating Centre in Oxford (Fax: 01865 289740)

The Study Co-ordinator will then:

• Immediately notify the Chief Investigator of receipt of SAE / SUSAR
• Inform the study DMC and TSC - the chairmen for the DMC and TSC will be notified in writing.
• Inform the Trent MREC in writing.
• Inform the R&D Office of the hospital reporting the adverse event.

6. **CONTACT WITH PARENTS**

The NEST Co-ordinating Centre will maintain contact with families after discharge from hospital in order to facilitate arrangements for later follow up.

7. **DEFINITIONS OF TERMS IN TRANSFER HOSPITAL DISCHARGE FORM**

Respiratory support: include part of any day as 1 day