

Management of Surge and Escalation  
**Procedure for Children**  
**Requiring Intensive Care in the Absence of**  
**Paediatric Intensive Care Beds or Delay in Arrival**  
**of the Transport Team**

## Document Control

<b>Policy reference</b>	<i>To be assigned by library</i>
<b>Category</b>	Women and Children Directorate
<b>Strategic objective</b>	To ensure the safety of children requiring intensive care in the absence of paediatric intensive care beds

<b>Author:</b>	Kay Rushforth – Head Of Nursing for Children’s Services and Neonates Paul Stonelake Consultant Intensivist ICU
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<b>Supersedes:</b>	N/A
<b>Executive Lead:</b>	Bryan Gill
<b>Approval Committee:</b>	Divisional Quality and Safety – Women and Children’s
<b>Ratified by:</b>	Children’s Speciality Quality and Safety Meeting Anaesthetic Risk and Governance Meeting Children’s Core Group Meeting Bryan Gill, Medical Director Paediatricians
<b>Date ratified:</b>	24 July 2018
<b>Date issued:</b>	24 July 2018
<b>Review date:</b>	24 August 2023
<b>Target audience</b>	All Relevant Trust Staff
<b>Summary</b>	When Paediatric Intensive Care is limited regionally and nationally or children are experiencing a delay (greater than 6 hours) in transfer by Embrace (specialist children’s transport team) a child must be stabilised and care must be provided in the safest place. Provision of the location of intensive care must be multi-disciplinary, ensuring that intensivists, paediatricians, children’s nurses, ICU nurses, neonatologists and operating departmental practitioners work together to provide safe care for the child
<b>Changes since last revision</b>	N/A
<b>Monitoring arrangements</b>	ESR
<b>Training requirements</b>	N/A
<b>Equality Impact Assessment level</b>	<p>It has potential impact on:</p> <p>Age - The policy covers all children under the age of 16. 16-18 year olds would be managed in an adult ICU.</p> <p>Disability - Reasonable adjustments would be made to ensure that effective communication takes place with families and carers.</p> <p>Race and ethnicity - All efforts will be made to ensure that effective communication takes place with families and carers</p> <p>It is has been found <u>not</u> to have impact on:</p> <ul style="list-style-type: none"> <li>• Gender</li> <li>• Gender reassignment</li> <li>• Marriage and civil partnership</li> <li>• Maternity/pregnancy</li> <li>• Religion and belief</li> <li>• Sexual orientation</li> </ul> <p>It has also been assessed to determine whether it impacts on human rights against the FREDA principles (Fairness, Respect, Equality, Dignity, Autonomy) and it is considered that it does not have impact. This assessment will be reviewed when the policy is next updated or sooner if evidence of further impact emerges.</p>

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## Executive Summary

1. This procedure is intended to support and guide clinical staff and managers at Bradford Royal Infirmary only when paediatric intensive care (PIC) is limited regionally and nationally or children are experiencing delay due to demand on Embrace the children's regional transport system.
2. There are five units that are able to provide short term critical care for children, Children's Stabilisation Unit, Neonatal Intensive Care Unit (extremely small baby at the discretion of the Neonatal Consultant), Accident and Emergency Department (AED), Operating Theatre (Management of the Difficult Airway), Adult Intensive Care Unit (at the discretion of the Intensivist).
3. The child must be stabilised in the safest place, Accident and Emergency Department (AED), Children's Stabilisation Unit, or Operating Theatre and the usual call made to Embrace.
4. Where a delay of 6 hours is likely, in the transfer of a child, the multi-disciplinary team must convene a meeting to establish roles and responsibilities, the safest place for the care of the child and to arrange to maintain contact with Embrace.
5. The provision of care for the child must be multidisciplinary ensuring that intensivists, children's nurses, intensive care nurses, paediatricians, neonatologists and operating department practitioners work together to provide safe care for the child.

## 1. Introduction

Paediatric Critical Care is a term used to describe Paediatric High Dependency Care (PHDC) and Paediatric Intensive Care (PIC) delivered to children and young people aged 0-17 years (up to but not including their 18<sup>th</sup> Birthday). PHDC has yet to be mandated in hospital trusts in the Yorkshire and Humber region; however PIC is well established and is delivered in Paediatric Intensive Care Units (PICUs) within tertiary centres. The paediatric critical care service (PIC and PHDC) is managed within a geographically defined location (Yorkshire and Humber (Y&H) Region) as part of a Paediatric Critical Care Operational Delivery Network (PCCODN). The Y&H PCCODN provides clinical leadership, makes recommendations to commissioners to ensure high quality paediatric critical care and effective service provision with the aim of delivering a comprehensive, equitable, integrated and safe service, local where possible, for children and young people when they are critically ill.

Within Y&H PCCODN are 20 specialist children's units in Yorkshire, North Derbyshire and Northern Lincolnshire. One of the 20 specialist children's units is located at Bradford Teaching Hospitals NHS Foundation Trust (BTHFT).

Designated PICU's within the Y&H PCCODN are located in two tertiary specialist units; the Children's Hospital in Leeds and the Sheffield Children's Hospital. Bed capacity within both units is 21 beds but this fluctuates with the availability of staff. Serving the 20 specialist children's units is Embrace a specialist team of nurses, advanced nurse practitioners, doctors and ambulance drivers that provide transport for critically ill children within the Y&H PCCODN.

Children that deteriorate to requiring critical care (specialist PHDC or dedicated PIC) at BTHFT require transfer to one of the PICUs or Paediatric HDU's within the region. Before transfer children are cared for in the stabilisation unit with a team of competent nurses, anaesthetists and paediatricians. Approximately 60-70 children each year are cared for in the stabilisation area, with 50% of those transferred by Embrace to a PICU. The same number of children are also transferred by Embrace for PIC from the Accident and Emergency Department (AED) at BTHFT. Although PIC is provided by the local team at BTHFT, this care is provided in the short term only as Embrace aim to arrive at the referral centre within 180 minutes of the paediatric critical care referral.

At times and especially during the winter months the regional and national PICU bed capacity may be compromised, due to staffing shortages or the demand for paediatric intensive care, making it difficult to admit a child to a PICU. See appendix 1 for PICU Opel

levels. Occasionally Embrace's capacity is exceeded, necessitating a longer stay for a critically ill child in Bradford. When transfer to a PICU is unavailable, provision must be made in Bradford to:

- Establish a plan of intensive care for the child in the most suitable place of safety, with the most appropriate skilled staff until transfer can be made to a PICU
- Monitor regularly the changing PICU capacity picture and cascade information to the clinical team, managers and executives within the organisation
- Liaise with and clinically update the PCCODN on the child's condition
- Support the parents and carers of children and provide regular updates

## **2. Policy Aim**

The aim of this policy is to guide and support, clinical staff and managers when:

- PICU capacity is limited regionally and nationally
- Children are experiencing delay due to excessive regional transfer request

This policy outlines the process to be followed when critically children are not able to be transferred for care in a timely manner to a PICU and must remain at the Bradford Royal Infirmary (BRI).

This policy applies to situations arising at BRI only.

## **3. Definitions**

- Infants, children and young people are referred to as child/children
- A Child is defined by age: Up to their 18<sup>th</sup> Birthday
- Neonate is defined by age: Up to 28 days of life
- Deteriorating: Worsening clinical condition and observations
- Embrace: Yorkshire and Humber specialist regional paediatric transport team
- ODP: Operating Department Practitioner
- PCC: Paediatric Critical Care
- PHDC: Paediatric High Dependency Care
- PIC: Paediatric Intensive Care
- Y&H PCCODN: Yorkshire and Humber Paediatric Critical Care Operational Delivery Network.

#### **4. Duties within the Organisation**

##### **4.1. Chief Executive/Chief Nurse**

Are responsible for ensuring that this policy is reviewed and regularly updated

##### **4.2. Medical Director**

Is responsible for ensuring that responsibilities set out below are adhered to

##### **4.3. Divisional Clinical Directors/Divisional General Managers**

Are responsible for:

- Ensuring adherence to this policy information
- Co-ordinating delivery of the action plan
- Communication systems are in place

##### **4.4. Clinical Lead/Head of Nursing/Specialty Leads**

Are responsible for:

- Dissemination of this information in clinical areas
- Supporting staff
- Co-ordinating delivery of the action plan
- Ensuring that staff have appropriate competencies

##### **4.5. Matrons**

Are responsible for:

- Monitoring care
- Providing feedback of the clinical situation
- Liaising with relevant personnel

##### **4.6. Ward Staff**

Are responsible for:

- Provision of critical care
- Acknowledgement of limitations
- Support and update to families

#### **5. Provision of Care**

There are currently five units/departments that are able to provide short term critical care for its population at BRI:

- Paediatric Stabilisation unit

- Neonatal Intensive Care Unit (NICU) for very small babies at the discretion of the neonatologist
- AED
- Operating Theatre (management of the difficult airway)
- Adult Intensive Care Unit (AICU). Young people from the age of 14 may be cared for in the longer term on the AICU at the discretion of the Intensivist.

Care must be provided for the child requiring PIC in the most appropriate place of safety until such a time that the Embrace transport service is able to retrieve the child.

### **5.1. The Paediatric Stabilisation Unit**

The stabilisation unit (2 bed spaces) offers stabilisation and short term care for a critically ill child until such a time that:

- The child improves and is returned to the children's ward
- Embrace retrieves the child for transfer to a PICU or specialist care area

The anaesthetist (consultant or specialist registrar) must be present and remain with the intubated child until care is handed over to and accepted by the Embrace team. The children's nurse providing this level of care must be stabilisation competent (have a valid European Paediatric Life Support course (EPLS) or Advanced Paediatric Life Support course (APLS).

### **5.2. Adult Intensive Care Unit (AICU)**

The AICU has 16 beds and manages patients aged 16+ as routine admissions

### **5.3. Neonatal Unit (NNU)**

The NNU has 29 cots and is a level 1 unit for babies requiring ventilation that weigh less than 1,000g and are born at less than 28 weeks gestation.

### **5.4. Accident and Emergency Department (AED)**

There are 3 resuscitation bays in the AED. One of these bays is used for the stabilisation and care of children.

### **5.5. Operating Theatre**

When the ward stabilisation area is in use or a child requires management of a difficult airway, the operating theatre (Nucleus Theatre) is used to manage the care of the critically ill child.

## **6. Delay/Surge and Escalation**

### **6.1 Delay in Transfer of the Child (Embrace Services at Capacity)**

The child must be stabilised initially in the safest place, AED, Stabilisation, Operating Theatre (if the child has a difficult airway) and the usual referral calls made to Embrace. Where there is likely to be a delay in the transfer of the child in excess of 6 hours, the following must be undertaken:

- In Hours
  - inform on call Consultant Intensivist, Consultant Paediatrician, Child's Specialist Consultant (e.g. Surgeon), Children's Services Matron, Senior Nurse Co-ordinating AICU, HoN Children's Services. A meeting must be convened with all of the above to discuss a plan of care and a place of safety for holding.
  - liaise with Embrace regularly to determine bed availability and determine the next call time.
  
- Out of Hours
  - inform On call Consultant Intensivist, Consultant Paediatrician, Child's Specialist Consultant (e.g. Surgeon), Clinical Site Matron, Senior Nurse Co-ordinating AICU and the Children's nurse co-ordinating care on the children's ward who must inform the on-call manager. A discussion must take place between the above to discuss a plan of care and the on call manager must be informed.

### **6.2. Surge and Escalation (Specialist PIC Services at Capacity).**

When there are no PIC beds regionally or nationally, the following must be undertaken:

- In Hours
  - inform On call Consultant Intensivist, Consultant Paediatrician, Child's Specialist Consultant (e.g. Surgeon), Children's Services Matron, Senior Nurse Co-ordinating AICU, HoN Children's Services, Divisional General Manager (DGM) for Women's and Children's Services, Chief Nurse, Medical Director. A meeting must be convened with Consultant Intensivist, Consultant Paediatrician, Children's Services Matron, Senior Nurse Co-ordinating AICU and HoN Children's Services to discuss a plan of care and a place of safety for holding and the DGM for Children's Services, Chief Nurse, Medical Director and Clinical Site team made aware of the plan
  - liaise with Embrace regularly to determine bed availability and determine the next call time

- Out of Hours
  - inform On call Consultant Intensivist, Consultant Paediatrician, Child's Specialist Consultant, Clinical Site Matron, Senior Nurse Co-ordinating AICU, Senior Nurse Co-ordinating the Children's Ward who must inform the on-call manager.
  - a discussion must take place between the Consultant Intensivist, Consultant Paediatrician, Clinical Site Matron, Senior Nurse Co-ordinating AICU, Senior Children's Nurse co-ordinating the ward to discuss a plan of care.
  - liaise with Embrace regularly to determine bed availability and determine the next call time

## 7. Place of Safety

When there are no PICU beds (regionally or nationally) or there is to be a delay in the transfer of the child (6 hours) consideration must be given to where the child is held. If Embrace's capacity is overwhelmed, it may be appropriate for BTHFT personnel to transfer the child to a PICU depending upon the destination and condition of the child.

If a child is stabilised in AED, or the Operating Theatre (for difficult airway management) and a delay in retrieval over 2 hours (from call) is anticipated, then a plan must be made to care for the child in the most appropriate place of safety. Children already stabilised requiring critical care and awaiting retrieval must not be held in the AED for over 2 hours

The Intensivist (or anaesthetic specialist registrar) must remain with the sick/deteriorating or intubated child until the child is transferred by Embrace but the Intensivist may have responsibility for patients on the AICU; therefore consideration must be given to the workload and responsibilities of the Intensivist.

A discussion will take place between the Consultant Intensivist, Paediatrician and neonatologist about the best place to care for the child depending on their age and complexity. The AICU will accept children over 6 months of age as the place of safety. **An exception report must be completed for any child under the age of 16 years admitted to the AICU** as requested by the Y+H PCCODN (appendix 2). This report must be emailed to the Head of Nursing for Children's Services

Parents must not be allowed to sleep by the child's bed in AICU but facilities must be provided for parents to rest/sleep and this may be provided on the children's ward.

## 7.1. Equipment Required

- Hamilton ventilator from the Stabilisation area
- Appropriate humidified circuit
- Transfer bag (sealed with PIC equipment)
- Drugs (prescribed, established at time of transfer)

## 7.2. Co-ordination of the provision of care

- **Children's Nurse:** Will transfer with the child. Where the child is less than 14 years, a Children's nurse, stabilisation competent, will work in partnership with the nurse in AICU each shift. The children's nurse is responsible for all aspects of children's nursing but will be guided by the AICU nurse on all aspects of intensive care.
- **AICU Nurse:** Is responsible for all aspects of intensive care but will be guided by the children's nurse on all aspects of children's nursing.
- **Consultant Intensivist:** Will be resident and will jointly manage the child with the paediatric consultant, an additional Intensive Care Medicine consultant may be required if the child had to remain on the ICU overnight.
- **Paediatric Consultant:** Should be resident and will direct the medical management of the child with advice from Embrace and/or local PICU consultant.
- **Operating Department Practitioner (ODP)** may be required to assist both in and out of hours.

**A flow diagram for process can be seen at appendix 3**

## 8. Policy Approval and Ratification

This policy will be approved by the Chief Nurse, Medical Director and by the Divisional Quality and Safety Group.

## 9. Process for Review

This policy will be reviewed every three years from the date of approval or in light of new guidance. The review date for this policy is 1/4/2020. The review is the responsibility of Kay Rushforth (Head of Nursing for Children's Services).

## **10. Communication and Dissemination**

Once approved this policy will be disseminated immediately on SharePoint electronically.

APPENDIX 1 RAG RATING	OPEL LEVEL	Triggers	Actions	
			In Hours	Out of Hours
Green	Business as Usual	<ul style="list-style-type: none"> <li>PIC Service is able to meet all paediatric critical care capacity requirements without impact on other services.</li> </ul>	<ol style="list-style-type: none"> <li>On-going monitoring of capacity.</li> <li>Embrace to complete CMS 6 hourly.</li> <li>ODN to provide weekly Capacity Monitoring Report at agreed time.</li> <li>Trusts should discuss management of bed capacity as per organisational policy taking into consideration regional bed availability.</li> </ol>	<ol style="list-style-type: none"> <li>On-going monitoring of capacity.</li> <li>Embrace to complete CMS 6 hourly.</li> </ol>
Amber	PIC OPEL ONE	<ul style="list-style-type: none"> <li>The service's bed capacity and or skill mix within a region is becoming limited but services within the region are able to receive patients and maintain optimal care.</li> <li>Regional concerns regarding PIC beds as individual units unable to admit for &gt; 6 hours</li> </ul>	<p><b>Discuss any concerns with ODN Lead Nurse.</b></p> <ol style="list-style-type: none"> <li>Update status on CMS</li> <li>Maximise repatriation and transfers by Embrace.</li> <li>Maximise utilisation of local paediatric HDU capacity</li> <li>Matron to matron discussions within each unit regarding the appropriate moving and utilisation of nursing staff to support admissions.</li> <li>Internal Trust discussions regarding PIC bed status and escalation of local policy maximising repatriations and ward discharges.</li> <li>Internal unit specific review of paediatric elective surgery requiring PIC, cancelling on basis of lower clinical need.</li> <li>ODN Lead Nurse to complete Capacity Monitoring Report as requested by NHSE</li> </ol>	<ol style="list-style-type: none"> <li>Call conference between PCC Consultants on call for Leeds, Sheffield and Embrace to discuss possible options and agree level of escalation.</li> <li>Update CMS</li> <li>Trigger Trust Escalation procedures as appropriate</li> </ol>
Red	PIC OPEL TWO	<ul style="list-style-type: none"> <li>All services within a single region are operating at maximum capacity AND are unable to accept new referrals within 6 hours</li> <li>Increasing requests for transfer from out of region because of national concerns regarding PIC beds</li> </ul>	<p><b>Discuss any concerns with ODN Lead Nurse.</b></p> <ol style="list-style-type: none"> <li>Ensure CMS updated with RAG status</li> <li>Ensure all actions in OPEL ONE undertaken</li> <li>Consider use of adult critical care for age and clinically appropriate patients</li> <li>Carry out risk assessment of existing PIC Patients and consider doubling up</li> <li>Activation of Y&amp;H Critical Care Control Group</li> <li>ODN/Embrace to contact NHSE North Region POC Manager 07860178003</li> <li>Relevant participation in regional/national surge calls</li> </ol>	<ol style="list-style-type: none"> <li><i>Embrace to contact NHSE Regional Specialised Commissioner on 0191 430 2453 (back up 0191 430 2498)</i></li> <li>Relevant participation in regional/national surge calls.</li> <li>Activation of Y&amp;H Critical Care Control Group (YHCCCG) to convene next working day</li> <li>ODN Lead Nurse to be informed (via email) of agreed national actions taken.</li> </ol>

## Appendix 2. Exception Report for Children Cared for in an Adult Intensive Care Unit



Yorkshire & Humber Paediatric  
Critical Care Operational Delivery Network



Exception Report for Children cared for in an  
Adult Intensive Care Unit

**Hospital Trust:**

**Date:**

**Name of person completing the form:**

**Contact email:**

**Patient Details:**

**Name:**

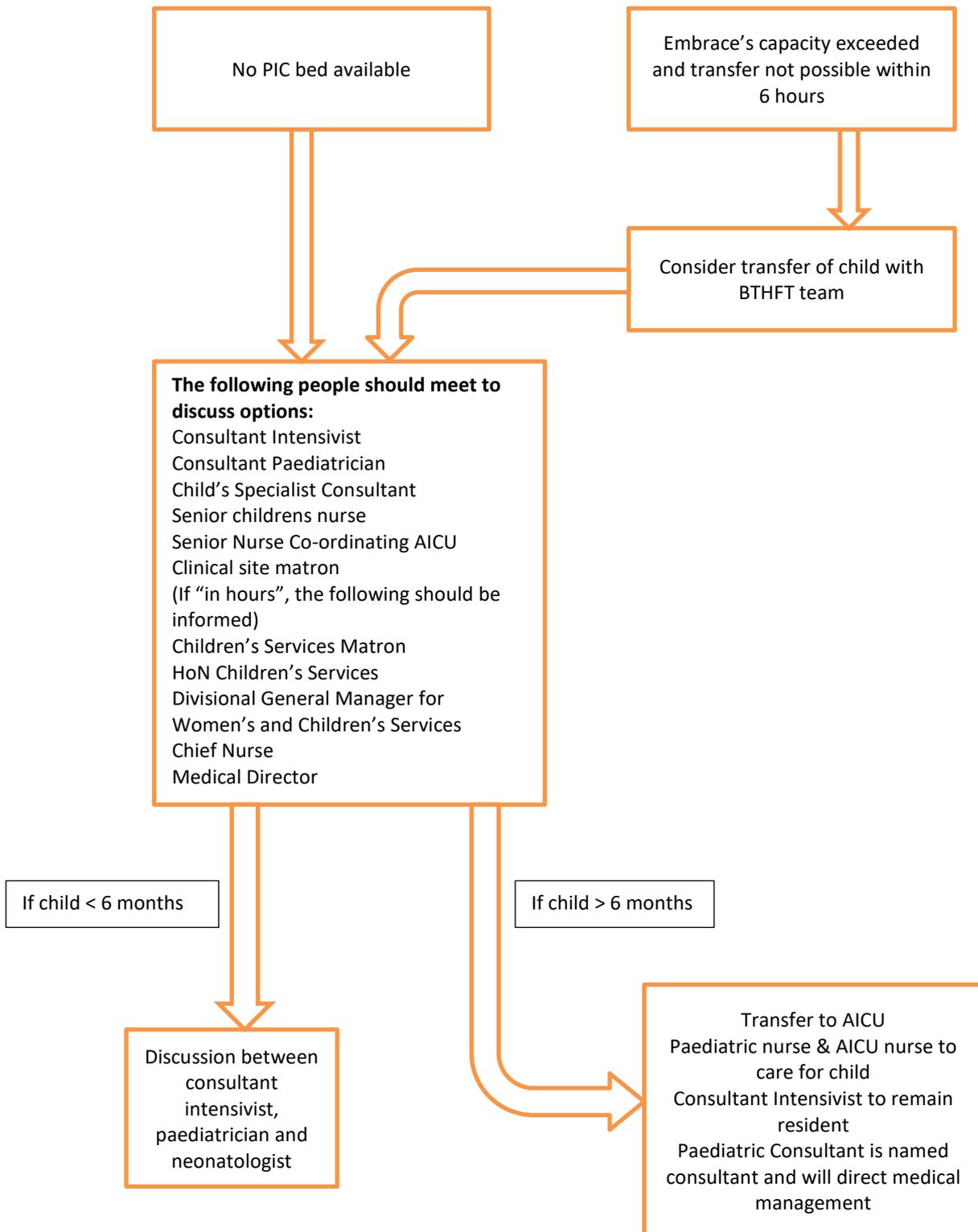
**Age:**

**NHS number:**

**Location:**

<b>Purpose</b>	An exception report must be completed for any child under 16 years of age that has been cared for in an adult intensive care unit to enable a review to take place.
<b>Description of exception</b>	
<b>Parties involved in decision</b>	
<b>Escalation / Critcon Level at time of decision</b>	
<b>Action / Outcome</b>	

Appendix 3. Flow Diagram



### Appendix 4. Equality Analysis

#### Assessment of Policy for Relevance for Promotion of Equality

<b>1 Name of Policy</b>	Management of surge and escalation
<b>Date Assessment completed:</b>	5 September 2018

<b>2 Division/Department</b>	Women and Children's
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<b>3 Service</b>	Paediatrics
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<b>4 Divisional General Manager/Director</b>	Diane Daley
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5 Assessment Completed By (Author? Equality Lead? Other?)	a) Name	b) Designation
Equality Leads	Kay Rushforth	Head of Nursing for Children and Neonates
Equality Support	Lorraine Cameron	Head of Equality and Diversity
Approved by General Manger: Yes or No:		

<b>6 Does the Policy Benefit or have an Impact on Staff and/or the Public? (please) ✓</b>					
<b>Staff</b>					
Yes		No	✓	Not Sure	
<b>Public</b>					
Yes	✓	No		Not Sure	

7 Is there a Differential Impact?		8 The Level of Concern or Evidence?	9 Policy change required?
	<b>7a)</b> Is there any information or reason to believe that the operation of this policy	<b>7b)</b> How much information or evidence is there?	Has there been any concern expressed by the public or staff about the operation

	would or does affect groups differently?		Answer: Not Applicable N/A None N Little L Some S Substantial Sub		of this policy?  Answer: Not Applicable N/A None N Little L Some S Substantial Sub			
	Staff	Public	Staff	Public	Staff	Public	Staff	Public
Age	N/A	Y	N/A	N/A	N/A	N/A	Y/N	N/A
Disability	N/A	Y	N/A	N/A	N/A	N/A	Y/N	N/A
Gender	N/A	N	N/A	N/A	N/A	N/A	Y/N	N/A
Gender Reassignment	N/A	N	N/A	N/A	N/A	N/A	Y/N	N/A
Human Rights	N/A	N	N/A	N/A	N/A	N/A	Y/N	N/A
Marriage or Civil Partnership Status	N/A	N	N/A	N/A	N/A	N/A	Y/N	N/A
Maternity/Preg	N/A	N	N/A	N/A	N/A	N/A	Y/N	N/A
Race and Ethnicity	N/A	N	N/A	N/A	N/A	N/A	Y/N	N/A
Religion and Belief	N/A	N	N/A	N/A	N/A	N/A	Y/N	N/A
Sexual Orientation	N/A	N	N/A	N/A	N/A	N/A	Y/N	N/A

<b>8 Reasons for Decision</b>	
<b>Equality Strand</b>	<b>Reasons</b>
Age	The policy covers all children under the age of 16. 16-18 year olds would be managed in an adult ICU.
Disability	Reasonable adjustments would be made to ensure that effective communication takes place with families and carers.
Gender	Does not specifically impact on gender
Gender Reassignment	Does not specifically impact on trans people
Human Rights	Does not specifically impact on human rights
Marriage or Civil Partnership Status	Does not specifically impact on marriage or civil partnership status
Maternity/Pregnancy	Does not specifically impact on maternity and pregnancy issues

Race and Ethnicity	Efforts will be made to ensure that effective communication takes place with families and carers.
Religion and Belief	Does not specifically impact on religion and belief
Sexual Orientation	Does not specifically impact on sexual orientation

9 Equality and Diversity Sign Off	
Head of Equality and Diversity	
Date of Sign Off	5 September 2018

### Notice to the Public

If you would like to comment on this Initial Impact Assessment  
please contact:

Equality and Diversity on telephone on 01274 382428

Or email [equality@bthft.nhs.uk](mailto:equality@bthft.nhs.uk)