All staff have a responsibility to prepare, check, and be familiar with using any resuscitation equipment available. Resuscitaire checklist - see Appendix 7. Community births should have an area set up with resuscitation equipment for any baby born in unexpected poor condition. Hospital births should have a checked resuscitaire and emergency neonatal resuscitation equipment available. Alert Neonatal Team as detailed in Section 2. Ensure adequate communication using SBARD; to include if maternal steroids and magnesium sulphate have been given where applicable and document in the notes. (New 2019)

For Emergency Neonatal help dial 2222, state ‘neonatal emergency response team’ and your exact location, including room number if relevant.

<table>
<thead>
<tr>
<th>Term baby delivery</th>
<th>Preterm Delivery</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resuscitaire pressures 30/4</td>
<td>Resuscitaire pressures 20-25/5</td>
</tr>
<tr>
<td>Blender set to 21% oxygen (air)</td>
<td>Blender set to 30% oxygen</td>
</tr>
<tr>
<td>Mask and laryngoscope blade size 0 and 1</td>
<td>Mask and laryngoscope blade size 0 or 00</td>
</tr>
<tr>
<td>Aim to delay cord clamping</td>
<td>Aim to delay cord clamping</td>
</tr>
<tr>
<td>Keep warm</td>
<td>Plastic bag for thermal support if &lt;32 weeks or ≤1.5kg</td>
</tr>
<tr>
<td></td>
<td>Call Consultant in addition to NNU team if &lt; 27 weeks gestation</td>
</tr>
</tbody>
</table>

- Complete documentation concurrently and additional notes as soon as possible
- Process cord samples for any baby requiring resuscitation
- Complete a neonatal transfer sheet for all babies transferred to NNU
- Complete a Datix incident report for all unexpected neonatal admissions
- Keep parents updated

Assess heart rate and breathing at birth
If HR over 100, delay cord clamping
Dry and reassess, apply hat, keep warm, if available, use pulse oximetry to guide oxygenation/supplemental 02 use

Refer to Resuscitation council 2015 Newborn Life Support algorithm [http://resus.org.uk](http://resus.org.uk)
1. Aim/Purpose of this Guideline

This guideline applies to obstetric, midwifery, paediatric, and neonatal staff who may be involved in the resuscitation or stabilisation of the newborn in the hospital or community setting. Its aim is for all staff to follow the same principles and practice of resuscitation. Emphasis is placed on the need to anticipate potential problems and to call for expert assistance as early as possible.

This guideline identifies where equipment is located and the process for ensuring it is clean, checked and ready for use and how and when to call for the support of the neonatal team.

The purpose of the guideline is to support the specialist skill of newborn resuscitation which is required by all staff who may be attendant at birth and is written in accordance with current Resuscitation and Support of Transition of Babies at Birth 2015

2. The Guidance

2.1. Staff roles and responsibilities

2.1.1 Consultant Paediatrician:
It is their responsibility to be available via an on call rota, to attend emergencies when required and to lead advanced resuscitation procedures or give advice when required. They are also responsible for ensuring parents are updated on the ongoing care of their baby.

2.1.2 Neonatal Team: (ST1-8/ANNP).
It is their responsibility to anticipate the need for extra help e.g. extreme prematurity, babies with known perinatal compromise/anomalies and to inform the NNU of an impending admission. All staff at these grades should be trained in resuscitation of the newborn.

The most senior member of the neonatal team is responsible for ceasing resuscitation measures where further treatment is felt to be futile.
Following a neonatal resuscitation, parents must be seen and updated regarding the treatment and condition of the baby as soon as feasibly possible by a senior member of the paediatric team.

2.1.3 Obstetricians: (Consultants/ST 3-7):
It is their responsibility to liaise with the NNU regarding the possible or expected birth of any baby known or thought to be likely to need resuscitation or stabilisation at birth, discussions include plans for delivery and staff requirements at delivery.

2.1.4 Midwives:
It is the responsibility of midwives to identify any woman in labour whose baby/babies may require initial support and to contact the on call SHO/ANNP in a timely fashion. They are responsible for that checking emergency equipment is ready for use. For babies born in unexpected poor condition or prematurely, the urgency of the call needs to be conveyed indicating gestation, reason for the call and location of the baby. Midwives should initiate treatment for sick babies whilst awaiting support from the neonatal team or, if in a community setting, whilst waiting for an ambulance.
2.1.5 **All registered staff working in Maternity Services:**

All registered staff, working within maternity and neonatal services, who care for newborns in the hospital or community setting should be competent to perform basic newborn life support as required. Initial training on induction will be provided to all appropriate groups of staff and updated as per RCHT Maternity services training needs analysis.

Staff who are newborn life support providers (NLS) following Resuscitation Council UK assessment are deemed competent for the time that the qualification remains valid. Staff who are accredited Resuscitation Council Instructors will be deemed competent whilst their accreditation is valid.

2.2. **Resuscitation Equipment (See Appendix 3 Hospital, Appendix 4 Community)**

2.2.1 Each resuscitaire has a list of all required equipment, at each routine check the resuscitaire should be cleaned, checked for completeness and to be in full working order.

2.2.2 Any deficiencies identified with the equipment, that cannot be immediately rectified, should be reported to the delivery suite coordinator/midwife in charge.

2.2.3 Any resuscitaire that is out of use will be recorded on the delivery suite white board and handed over at each shift change during the safety briefing.

2.2.4 If a resuscitaire is out of use on either the Birth Centre, Wheal Rose or Wheal Fortune it will be replaced with a resuscitaire from Delivery Suite until it is back in full working order.

2.2.5 If a resuscitaire is out of use in the community setting a risk assessment must be undertaken. Suitable alternative equipment supplied or births suspended in the setting.

2.2.6 Before each anticipated use, check heat, light, air/oxygen and suction.

2.2.7 Following each use, clean and replace any used items and check to ensure the resuscitaire is in full working order.

2.2.8 It is the responsibility of the individual to ensure they are trained and updated in the use of any medical devices they are likely to need to use. All medical devices training must be entered on the relevant training database.

2.3. **Births requiring neonatal team member attendance**

- Births<37 weeks completed gestation
- Emergency caesarean sections
- Instrumental deliveries
- Meconium stained liquor
- Vaginal breech deliveries
- Any baby where the need for resuscitation is anticipated, acutely or antenatally
2.4. Emergency On Call Neonatal Team

2.4.1. Call 2222 and ask for the NEONATAL EMERGENCY RESPONSE TEAM and specify your EXACT LOCATION, including room number if relevant.

2.4.2. The Neonatal Emergency Response Team should be called in the event of:

- Cat 1 Section (New 2019)
- Need for resuscitation at birth with no member of neonatal team present at delivery
- Neonatal Team member call for help in new-born life support setting
- Postnatal neonatal collapse

2.4.3. The Neonatal Emergency Response Team will consist of:

- Advanced Neonatal Nurse Practitioner ANNP or SHO
- Neonatal/Paediatric Registrar
- Neonatal Nurse

2.4.4. If a Consultant is required they can be called via switchboard, they are not automatically part of the response team (New 2019)

2.5. On Call Neonatal Team

<table>
<thead>
<tr>
<th>Role</th>
<th>Availability</th>
<th>Contact Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>SHO/ ANNP</td>
<td>Available on site 24hrs a day</td>
<td>Bleep via Bleep 3217, the number is displayed on delivery suite white board</td>
</tr>
<tr>
<td>Neonatal Registrar</td>
<td>Available on site 09.00 hours -17.00 On-call.</td>
<td>The neonatal registrars are contacted via Bleep 3216, the number is displayed on delivery suite white board</td>
</tr>
<tr>
<td>Neonatal Nurse</td>
<td>Available on site 24hrs a day</td>
<td>Bleep via 3218</td>
</tr>
<tr>
<td>Neonatal Consultant</td>
<td>Available Monday – Friday 09.00 hours – 17.00 hours</td>
<td>Call via main hospital switchboard</td>
</tr>
<tr>
<td>Paediatric Consultants</td>
<td>On call at home (30 minutes response time) between 17.00 hours -09.00 hours and weekends and bank holidays</td>
<td>Call via main hospital switchboard</td>
</tr>
</tbody>
</table>

2.6. Resuscitation on Wheal Fortune/Wheal Rose Wards/Birth Centre

If a baby requires resuscitation they should be taken to the resuscitaire on the ward. Call 2222 Neonatal Emergency specifying location. The midwife should initiate newborn life support and continue until neonatal assistance arrives.

2.7. Transfer of the sick newborn to the neonatal unit from community birth

Request paramedic ambulance via 999 emergency call. In a full resuscitation situation, communication should be made directly with the delivery suite.
coordinator who will liaise with the on call neonatal team and NNU to agree the most appropriate place for admission/ambulance destination. This could be direct to Delivery Suite or NNU for on-going resuscitation/stabilisation. If two midwives are present the midwife undertaking the resuscitation should escort the baby with the ambulance crew and document events on arrival. If only one midwife present and the woman requires care by the midwife, the resuscitation of the baby should be handed over to the paramedic team.

2.8. Transfer from Emergency Department or other areas of the hospital

The on call neonatal resuscitation team should be contacted via hospital switchboard, the baby will be stabilised then transferred to neonatal unit using the transport incubator.

2.9. Unexpected admissions to the NNU/ unexpected poor birth condition including community birth

Delivery Suite co-coordinator to ensure NNU is alerted immediately of any pending delivery likely to need neonatal support or NNU admission. Any baby whose admission to NNU has not been anticipated and the need for resuscitation identified by the condition of the baby at birth, should be reported as a clinical incident via the electronic online reporting system (Datix) as per the trigger list.

2.10. Resuscitation of the Newborn (see also 2.14 & 2.15 for management of meconium and prematurity)

2.10.1 Babies who are compromised at delivery should have immediate cord clamping and transfer to the resuscitaire/prepared area then dried, covered with a dry towel, and placed in a neutral head position with assessment of their airway, breathing, heart rate and tone following the 2015 NLS algorithm (See Appendix 5). It is essential to call for help early (See section 2.4).

2.10.2 Where possible pulse oximetry should be used. Probe attachment to the right hand or arm should provide oxygen saturation readings within 90 seconds.

2.10.3 For term infants, air should be used initially for resuscitation. Inflation breaths require sustained pressure of 2-3 seconds at 30cm H2O PIP to aerate the lungs with 4cm PEEP. If, despite effective ventilation (with chest movement seen) oxygenation/ central colour (ideally guided by pulse oximetry) remains unacceptable, a higher oxygen concentration should be used.

2.10.4 For preterm infants use a PIP setting of 20-25cms pressure with 5cm PEEP with oxygen flow of 30% (Resuscitation Council 2015).

2.10.5 In the absence of pulse oximetry, a baby who remains dusky/cyanosed/ heart rate under 100, after chest movement seen, oxygen should be administered. No current evidence supports a particular oxygen
concentration but where blending is available, increasing in 25% (ratio of 02 to air flow) increments is reasonable, otherwise use 100% oxygen in place of air. Reduce oxygen concentration until infant is pink and spontaneously breathing without support.

2.10.6 Reassessment of the baby should occur every 30 seconds during NLS resuscitation, focusing on the rising heart rate as the primary guide to successful resuscitation, aiming for ≥100bpm. If the heart rate responds but the baby is still not breathing, give ventilation breaths (1 second duration) at 30 per minute until senior review or normal breathing is established.

2.10.7 If the heart rate remains very slow, ≤ 60 despite chest wall movement give 30 seconds ventilation breaths, reassess, if still ≤ 60, commence cardiac compressions (Resuscitation Council 2015)

2.11. Advanced Resuscitation (See Appendix 5 for Equipment)

2.11.1 If appropriately skilled personnel are available intubation or laryngeal mask placement can be used to secure/establish an open airway.

2.11.2 Laryngeal mask Size 1 can be used for babies over 33 weeks/ 2kg weight.

2.12. Indications for intubation include:
- To clear matter obstructing the airway e.g. meconium, blood clot, vernix
- To protect/support the airway
- For surfactant or adrenaline drug administration
- For anticipated prolonged respiratory support
- For apnoeic/shocked babies with poor respiratory drive (New 2019)
- High oxygen requirement (New 2019)

2.13. The use of drugs in neonatal resuscitation
Drugs are rarely needed and should only be used if there is no significant cardiac output despite effective lung inflation and chest compressions.
- Optimal venous access is via Umbilical Venous Catheter (UVC)
- Community paramedic/ED may choose to access via intraosseous needle
- Initial blood aspirated should optimally be analysed for blood gas and glucose, plus FBC, blood group and blood spot
- **Adrenaline**: 1:10,000 solution IV dose 10mcg/kg (0.1ml / kg) If not effective up to 30mcg/kg (0.3ml/kg) can be used. Adrenaline doses can be repeated after 2 – 3 minutes
- **Sodium Bicarbonate**: 4.2% solution 2-4 ml/kg (e.g. 1-2 mmols/kg) or 8.4% solution diluted 1:1 with intravenous water or dextrose.
- **Sodium Chloride 0.9%** 10ml/kg for volume support if cardiac output remains poor and hypovolaemic shock is suspected, can be repeated
- **Dextrose 10%**: 2.5ml/kg for hypoglycaemia
- **Naloxone** 400mcg/ml; Naloxone is not a drug of resuscitation but if the baby remains apnoeic once the airway has been established, heart rate over 100bpm and mother received opiates within 4 hours of baby’s
delivery consider 200mcg.stat dose IM. NB. If the mother is opiate
dependent Naloxone should be given with caution as it may cause acute
withdrawal/seizures in the baby

2.14. Meconium

2.14.1 If meconium is seen in the liquor and baby is not compromised at birth with
heart rate over 100 and an open airway normal care can continue,
including deferred cord clamping.

2.14.2 If the baby does not breathe at delivery/floppy or heart rate <100, avoid
stimulation, transfer to the resuscitaire/prepared area and inspect the
airway under direct vision using a laryngoscope. Apply suction with large
bore catheter/yankauer sucker to remove any meconium seen before
giving inflation breaths. If meconium remains copious after
suctioning/intubation and direct suction, commence inflation breaths
within1 minute to avoid hypoxia.

2.15. Prematurity

2.15.1 Every effort should be made to ensure a senior grade from the Neonatal
Team paediatrician/neonatologist is at the delivery of babies born under 30
weeks gestation. Under 27 weeks gestation a Consultant should be called to
attend (New 2019)

2.15.2 Premature babies under 32 weeks are more likely to lose body heat and
should be placed into a plastic bag, up to their neck, with a plastic clamp on a
long cord. The head should be dried, hat applied and, when available, pulse
oximetry probe attached to right wrist. Inflation pressures are initially set at lower
levels (20-25cms peak pressures, 5cms positive end expiratory pressure)
Oxygen flow setting at 30% (NLS 2015)

2.15.3 If the baby is spontaneously breathing, consider mask PEEP early
If intubation is required, surfactant should be administered promptly, within 15
minutes (see appendix 6 for guidance)

2.16. Cord Gas Analysis
Cord blood should be taken and analysed at birth, for any baby where there have
been concerns of compromise during labour or the baby is born unexpectedly in
poor condition. This is not achievable in the community setting. Placental
weight/swab/histology may also be required.

2.17. Documentation and Record Keeping
Wherever possible the RCH Neonatal Resuscitation record should be completed
in real time. See Appendix 8 (New 2019).
Clear, detailed, factual notes that are legible, dated and signed should be made
as soon as possible after the resuscitation. Where possible contemporaneous
documentation should be made whilst the resuscitation is in progress.

Detail should aim to include:

- Who was present at delivery and immediate concerns
• When further assistance was requested
• When any further assistance arrived
• Heart rate at birth and when it first exceeded 100bpm
• Whether gasping respirations preceded onset of breathing and for how long this was seen
• When baby started to breathe regularly
• Respiratory assistance given and timing of any intervention
• Whether cardiac massage was given and duration
• Any drugs administered with times and route
• Cord gas analysis
• Detail of information given to parents
### 3. Monitoring compliance and effectiveness

| Element to be monitored | • The audit will take into account record keeping by obstetric, anaesthetic and paediatric doctors, midwives, nurse, students and maternity support workers  
  • The results will be inputted onto an excel spreadsheet  
  • The audit will be registered with the Trust’s Audit Department |
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead</td>
<td>Audit Midwives</td>
</tr>
</tbody>
</table>
| Tool                    | • Was an equipment check list attached to each resuscitaire in all maternity care settings  
  • **For Delivery Suite**: was the individual location identified and the check signed for in the ward diary  
  • Was the weekly check of the emergency paediatric trolley signed for in the book on the trolley  
  • **Wheal Rose**: Was the daily check signed for in the ward diary  
  • **Wheal Fortune**: Was the daily check signed for in the book on the resuscitaire  
  • **Penrice**: Was the daily check signed for in the book on the resuscitaire  
  • **Helston & St Mary’s**: Was the weekly check signed for in the book on the resuscitaire  
  • If resuscitation equipment not available in any clinical area, was this included in the safety briefing and a plan/risk assessment in place for alternative arrangements |
| Frequency               | Every 3 months the team leader/ward manager will complete the above audit and address any deficiencies identified |
| Reporting arrangements  | • A formal report of the results will be received annually at the Maternity Patient Safety and Clinical Audit Forum, as per the audit plan  
  • During the process of the audit if compliance is below 75% or other major deficiencies identified, this will be highlighted at the next Maternity Patient Safety and Clinical Audit Forum and an action plan agreed |
| Acting on recommendations and Lead(s) | • Any deficiencies identified on the annual report will be discussed at the Patient Safety Management and Clinical Audit Forum and an action plan developed  
  • Action leads will be identified and a time frame for the action to be completed by  
  • The action plan will be monitored by the Patient Safety Midwife until all actions complete |
| Change in practice and lessons to be shared | • Required changes to practice will be identified and actioned within a time frame agreed on the action plan  
  • A lead member of the forum will be identified to take each change forward where appropriate  
  • The results of the audits will be distributed to all staff through the risk management newsletter/audit forum as per the action plan |
4. Equality and Diversity

4.1. This document complies with the Royal Cornwall Hospitals NHS Trust service Equality and Diversity statement which can be found in the ‘Equality, Diversity & Human Rights Policy’ or the Equality and Diversity website.

4.2. **Equality Impact Assessment**

The Initial Equality Impact Assessment Screening Form is at Appendix 2.
## Appendix 1: Governance Information

<table>
<thead>
<tr>
<th>Document Title</th>
<th>Newborn Life support (NLS) Clinical Guideline V6.0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date Issued/Approved:</td>
<td>7th February 2019</td>
</tr>
<tr>
<td>Date Valid From:</td>
<td>February 2019</td>
</tr>
<tr>
<td>Date Valid To:</td>
<td>7th February 2022</td>
</tr>
<tr>
<td>Directorate / Department responsible (author/owner):</td>
<td>Judith Clegg, ANNP, Neonatal Unit Obs &amp; Gynae Directorate</td>
</tr>
<tr>
<td>Contact details:</td>
<td>01872 252667</td>
</tr>
<tr>
<td>Brief summary of contents</td>
<td>Newborn Life Support guidance for Hospital and Community settings, staff responsibilities and equipment required</td>
</tr>
<tr>
<td>Suggested Keywords:</td>
<td>Neonate, Newborn, Neonatal, life support, resuscitation, NLS, Midwifery, pulse oximetry</td>
</tr>
<tr>
<td>Target Audience</td>
<td>RCHT</td>
</tr>
<tr>
<td>Executive Director responsible for Policy:</td>
<td>Medical Director</td>
</tr>
<tr>
<td>Date revised:</td>
<td>January 2019</td>
</tr>
<tr>
<td>This document replaces (exact title of previous version):</td>
<td>Newborn Life Support Clinical Guideline v5.0</td>
</tr>
<tr>
<td>Approval route (names of committees)/consultation:</td>
<td>Maternity Guideline Group Obs and Gynae Directorate Divisional Board</td>
</tr>
<tr>
<td>Divisional Manager confirming approval processes</td>
<td>Debra Shields, Care Group Manager</td>
</tr>
<tr>
<td>Name and Post Title of additional signatories</td>
<td>None required</td>
</tr>
<tr>
<td>Signature of Executive Director giving approval</td>
<td>{Original Copy Signed}</td>
</tr>
<tr>
<td>Publication Location (refer to Policy on Policies – Approvals and Ratification):</td>
<td>Internet &amp; Intranet</td>
</tr>
<tr>
<td>Document Library Folder/Sub Folder</td>
<td>Clinical/Midwifery and Obstetrics</td>
</tr>
<tr>
<td>Links to key external standards</td>
<td>CNST 5.2</td>
</tr>
</tbody>
</table>
### Related Documents:
- Gibbs J. Newson T. et.al. (1989) Naloxone Hazard in infant of opioid abuser LANCET 2:159-60
- Sudden Unexpected Postnatal collapse in the first week of life Guideline (2011) March BAPM endorsed. British Paediatric Surveillance Unit RCPCH

### Training Need Identified?
Yearly, mandatory training requirement for obstetric and paediatric staff

### Version Control Table

<table>
<thead>
<tr>
<th>Date</th>
<th>Version No</th>
<th>Summary of Changes</th>
<th>Changes Made by (Name and Job Title)</th>
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<tr>
<td>09/2009</td>
<td>V1.0</td>
<td></td>
<td>Judith Clegg, ANNP</td>
</tr>
<tr>
<td>09/2012</td>
<td>V2.0</td>
<td>Updated equipment, updated new National NLS Guidance, separated from admission to NNU guideline</td>
<td>Jan Clarkson, Jane Pascoe, Midwife Delivery Suite</td>
</tr>
<tr>
<td>5/9/2013</td>
<td>V3.0</td>
<td>Updated equipment requirements, contact telephone numbers and guidance for community obstetric staff, section 2.9</td>
<td>Judith Clegg, ANNP</td>
</tr>
<tr>
<td>3rd July 2014</td>
<td>V4.0</td>
<td>Updated Emergency Bleep Numbers Neonatal Emergency Group Bleep 3100 Neonatal Registrar Bleep 3216 Advanced Neonatal Nurse Practitioner or SHO Bleep 3217 Neonatal Nurse bleep 3218</td>
<td>Elizabeth Anderson Practice Development Midwife</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Updated In the event of neonatal collapse, call 2222 and ask for the NEONATAL TEAM and specify your EXACT LOCATION.</td>
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</tbody>
</table>
All or part of this document can be released under the Freedom of Information Act 2000

This document is to be retained for 10 years from the date of expiry.

This document is only valid on the day of printing

Controlled Document
This document has been created following the Royal Cornwall Hospitals NHS Trust Policy on Document Production. It should not be altered in any way without the express permission of the author or their Line Manager.
Appendix 2. Initial Equality Impact Assessment Form

*This assessment will need to be completed in stages to allow for adequate consultation with the relevant groups.*

<table>
<thead>
<tr>
<th>Name of the strategy / policy / proposal / service function to be assessed</th>
<th>Directorate and service area: Obs and Gynae Directorate</th>
<th>Is this a new or existing Policy?</th>
<th>Telephone:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Newborn Life Support Clinical Guideline V6.0</td>
<td></td>
<td>Existing</td>
<td>01872 252667</td>
</tr>
<tr>
<td>Name of individual completing assessment: Judith Clegg, ANNP.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. **Policy Aim**

   *Who is the strategy / policy / proposal / service function aimed at?*

   To inform obstetric, midwifery, paediatric, neonatal staff and Community Midwives/GPs of the best evidenced based approach to resuscitation at birth.

2. **Policy Objectives**

   To ensure optimum newborn life support

3. **Policy – intended Outcomes**

   Best possible outcome for sick new-born babies

4. **How will you measure the outcome?**

   Compliance Monitoring Tool

5. **Who is intended to benefit from the policy?**

   Newborn babies and their parents.

6a Who did you consult with

<table>
<thead>
<tr>
<th>Workforce</th>
<th>Patients</th>
<th>Local groups</th>
<th>External organisations</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**b). Please identify the groups who have been consulted about this procedure.**

- Neonatal Guidelines Group
- Maternity Guidelines Group
- Obs and Gynae Directorate
- Policy Review Group

What was the outcome of the consultation?

Guideline agreed.
7. The Impact
Please complete the following table. If you are unsure/don’t know if there is a negative impact you need to repeat the consultation step.

<table>
<thead>
<tr>
<th>Equality Strands:</th>
<th>Yes</th>
<th>No</th>
<th>Unsure</th>
<th>Rationale for Assessment / Existing Evidence</th>
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</thead>
<tbody>
<tr>
<td>Age</td>
<td></td>
<td>x</td>
<td></td>
<td>All newborn babies</td>
</tr>
<tr>
<td>Sex (male, female, trans-gender / gender reassignment)</td>
<td></td>
<td>x</td>
<td></td>
<td>All newborn babies</td>
</tr>
<tr>
<td>Race / Ethnic communities /groups</td>
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<td>All newborn babies</td>
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<tr>
<td>Disability -</td>
<td></td>
<td>x</td>
<td></td>
<td>All newborn babies</td>
</tr>
<tr>
<td>Learning disability, physical impairment, sensory impairment, mental health conditions and some long term health conditions.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Religion / other beliefs</td>
<td></td>
<td>x</td>
<td></td>
<td>All newborn babies</td>
</tr>
<tr>
<td>Marriage and Civil partnership</td>
<td></td>
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<td>All newborn babies</td>
</tr>
<tr>
<td>Pregnancy and maternity</td>
<td></td>
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<td></td>
<td>All newborn babies</td>
</tr>
<tr>
<td>Sexual Orientation, Bisexual, Gay, heterosexual, Lesbian</td>
<td></td>
<td>x</td>
<td></td>
<td>All newborn babies</td>
</tr>
</tbody>
</table>

You will need to continue to a full Equality Impact Assessment if the following have been highlighted:

- You have ticked “Yes” in any column above and
- No consultation or evidence of there being consultation - this excludes any policies which have been identified as not requiring consultation. or
- Major this relates to service redesign or development

8. Please indicate if a full equality analysis is recommended. | Yes | No | x |

9. If you are not recommending a Full Impact assessment please explain why.

Not required.
Keep one copy and send a copy to the Human Rights, Equality and Inclusion Lead
c/o Royal Cornwall Hospitals NHS Trust, Human Resources Department, Knowledge Spa,
Truro, Cornwall, TR1 3HD

This EIA will not be uploaded to the Trust website without the signature of the
Human Rights, Equality & Inclusion Lead.

A summary of the results will be published on the Trust’s web site.

Signed ___ Sarah-Jane Pedler____________
Date ___February 2019 _______________
## Appendix 3: Neonatal Resuscitation Equipment Hospital Setting

<table>
<thead>
<tr>
<th>Ward / Area</th>
<th>Equipment/ Location</th>
<th>Checks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delivery Suite</td>
<td>Resuscitaires:</td>
<td>Daily checks:</td>
</tr>
<tr>
<td></td>
<td>- D/S Corridor</td>
<td>• Individual locations identified and check signed for in ward diary</td>
</tr>
<tr>
<td></td>
<td>- D/S Theatre</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- High Risk Delivery Rooms, 7,10 &amp; 11</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>Other checks</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Before use if anticipated</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• After Use</td>
</tr>
<tr>
<td></td>
<td>Paediatric Emergency Trolley:</td>
<td>Weekly check:</td>
</tr>
<tr>
<td></td>
<td>- Stored in D/S Corridor by Adult Resuscitation Trolley</td>
<td>• Signed for in check book on the trolley</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Other checks</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Before use if anticipated</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• After Use</td>
</tr>
<tr>
<td>Wheal Fortune</td>
<td>Resuscitaire and Paediatric Emergency Trolley:</td>
<td>Daily check:</td>
</tr>
<tr>
<td></td>
<td>- Located in the Neonatal Treatment/Drs Room</td>
<td>• Signed for in book on Resuscitare</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Other checks</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• After Use</td>
</tr>
<tr>
<td>Wheal Rose</td>
<td>Resuscitaire and Paediatric Emergency Trolley:</td>
<td>Daily check:</td>
</tr>
<tr>
<td></td>
<td>- Located in the corridor by Midwives office</td>
<td>• Signed for in ward diary</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Other checks</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• After Use</td>
</tr>
<tr>
<td>Birth Centre</td>
<td>Resuscitaire and Paediatric Emergency Trolley:</td>
<td>Daily check:</td>
</tr>
<tr>
<td></td>
<td>- Located in the corridor</td>
<td>• Signed for in ward diary</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Other checks</td>
</tr>
<tr>
<td></td>
<td></td>
<td>After Use</td>
</tr>
</tbody>
</table>
## Appendix 4: Neonatal Resuscitation Equipment Community Setting

<table>
<thead>
<tr>
<th>Area</th>
<th>Equipment / Location</th>
<th>Checks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Penrice Birth Centre</td>
<td><strong>Resuscitaire:</strong></td>
<td>Daily check:</td>
</tr>
<tr>
<td></td>
<td>- Kept in room opposite the</td>
<td>• Signed for in book on Resuscitaire</td>
</tr>
<tr>
<td></td>
<td>delivery rooms</td>
<td><strong>Other checks</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Prior to and following use</td>
</tr>
<tr>
<td>Helston Birth Centre</td>
<td><strong>Resuscitaire:</strong></td>
<td>Weekly check:</td>
</tr>
<tr>
<td></td>
<td>- Kept in birth room</td>
<td>• Signed for in book on Resuscitaire</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Other checks</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Prior to and following use</td>
</tr>
<tr>
<td>St Mary's Hospital, Isles of</td>
<td><strong>Resuscitaire</strong></td>
<td>Weekly check:</td>
</tr>
<tr>
<td>Scilly</td>
<td></td>
<td>• Signed for in book on Resuscitaire</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Other checks</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Prior to and following use</td>
</tr>
<tr>
<td>Home Birth Equipment</td>
<td>Each community midwife carries:</td>
<td>All Items Single Patient use and must be</td>
</tr>
<tr>
<td></td>
<td>- Single use 500ml Bag / Mask valve</td>
<td>replaced following use.</td>
</tr>
<tr>
<td></td>
<td>- Masks x 2 size 1 size 0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Guedel Airway</td>
<td></td>
</tr>
</tbody>
</table>

All Items Single Patient use and must be replaced following use.
Appendix 5: NLS Algorithm ©
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Resuscitation Council (UK)

(Antenatal counselling)
Team briefing and equipment check

Birth

Dry the baby
Maintain normal temperature
Start the clock or note the time

Assess (tone), breathing, heart rate

If gasping or not breathing:
Open the airway
Give 5 inflation breaths
Consider $SpO_2$ ± ECG monitoring

Re-assess
If no increase in heart rate look for chest movement during inflation

If chest not moving:
Recheck head position
Consider 2-person airway control and other airway manoeuvres
Repeat inflation breaths
$SpO_2$ ± ECG monitoring
Look for a response

If no increase in heart rate look for chest movement

When the chest is moving:
If heart rate is not detectable or very slow ($< 60 \text{ min}^{-1}$) ventilate for 30 seconds

Reassess heart rate
If still $< 60 \text{ min}^{-1}$ start chest compressions; coordinate with ventilation breaths (ratio 3:1)

Re-assess heart rate every 30 seconds
If heart rate is not detectable or very slow ($< 60 \text{ min}^{-1}$) consider venous access and drugs

Update parents and debrief team

AT
ALL
TIMES
ASK:

DO

YOU

ACCEPTABLE
pre-ductal $SpO_2$
2 min 60%
3 min 70%
4 min 80%
5 min 85%
10 min 60%

INCREASE OXYGEN
(guided by oximetry if available)

NEWBORN LIFE SUPPORT CLINICAL GUIDELINE V6.0
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## Appendix 6: Advanced Resuscitation Equipment Guide

<table>
<thead>
<tr>
<th></th>
<th>Under 1kg/≤28 weeks</th>
<th>Under 2kg/ ≤32 weeks</th>
<th>Over 2kg to term</th>
</tr>
</thead>
<tbody>
<tr>
<td>Put into plastic bag for thermal control</td>
<td>✓</td>
<td>✓</td>
<td>-</td>
</tr>
<tr>
<td>Airway size</td>
<td>000</td>
<td>00</td>
<td>0 - 1</td>
</tr>
<tr>
<td>Laryngeal mask</td>
<td>Do not use</td>
<td>Do not use</td>
<td>Size 1 (pink)</td>
</tr>
<tr>
<td>Laryngoscope Blade size</td>
<td>00</td>
<td>0</td>
<td>0 - 1</td>
</tr>
<tr>
<td>ET Tube Diameter and approximate length</td>
<td>2.5mm 5.5-7cm</td>
<td>3.0mm 7.5-8cm</td>
<td>3.0 - 3.5mm [4.0mm post term/over 4kg] 8.0-9.5cm</td>
</tr>
</tbody>
</table>
Appendix 7
DRÄEGAR RESUSCITAIRE CHECKLIST (New 2019):

- Check clock, light and heater working
- Neonatal stethoscope
- Sheet and 2 towels on mattress
- T Piece and masks (sizes 0 and 1)
- Laryngoscope and blades
- 10CH Black suction catheter
- Infant (mini) Yankauer sucker.
- Cord clamp and scissors
- Hats
- Switch on Oxygen and Air cylinders and check gauges (replace if ≤ 1/4 full)
- Turn on Gas Supply to resuscitaire – switch located on lowest panel

CHECK Peak Inspiratory Pressure (PIP) and Positive End Expiratory Pressure (PEEP):

1. Attach T-Piece circuit to patient outlet + check suitable mask present

   • Check blender dial is set to 21% Oxygen - located on upper panel
   • Set flow to 8L/min – this will be AIR unless you turn BLENDER on top panel to give Oxygen
   • Check there is no oxygen flowing from auxiliary flow nozzle to avoid loss of gas

2. Seal T-Piece circuit with fingers, occluding both sides and adjust airway pressure dial until (PIP) reads 30cm H₂O pressure

   TO ALTER THE PEEP TURN THE VALVE WITH FINGER OVER THE OTHER OPENING UNTIL 4-5 CM PRESSURE SHOWS ON DIAL

   PEEP valve set to 4-5cm with finger still over other side

HELP: Ask for Neonatal Emergency Response Team via 2222 or ANNP/SHO bleep 3217
Neonatal Reg.Bleep 3216  Nursery 1 NNU Nurse bleep 3218  ext. 5961

Newborn Life Support Clinical Guideline v6.0
3. Check suction is working at 4kPa with 10Fg catheter/mini yankauer sucker present. Suction should not exceed 10kPa

Check other equipment in drawer:
- 2 x Single patient use Neonatal laryngoscopes with size 0 and size 1 blades
- 3 x Neonatal Guedel airways sizes 00,0,1
- small face mask (size 0), medium face mask (size 1)
- 4x 10CH black catheters 1 x Infant (mini) Yankauer sucker
- ET Tubes 2x 2.5mm, 2x 3.0mm, 2x 3.5mm, 2x 4.0mm plus 2x introducer styles
- 1 cord clamp and scissors,
- SPARE T Piece circuit and suction tubing
- C02 Monitor (New 2019)

GENERAL GUIDANCE FOR NEONATAL RESUSCITATION
Advanced resuscitation equipment/ fluids, etc. in Neonatal Trolley

THERMAL CONTROL PLASTIC BAG CRITERIA:
Under 32 weeks or under 1.5kg birth weight

T Piece pressures
Term baby setting: 30 PIP over 4 PEEP
Preterm baby setting: 20 PIP over 5 PEEP

INTUBATION ET TUBE SIZE GUIDE:

Gestation under 27 weeks: 2.5mm ET Tube 6 – 6.5cm at lips
Size 00 Laryngoscope blade

Gestation 28 - 33 weeks: 3.0mm ET Tube 7 - 8cm at lips
Size 0 Laryngoscope blade

Gestation 34 – term: 3.5mm ET Tube 8.5 – 9.5cm at lips
Size 0 or 1 Laryngoscope blade

Laryngeal mask (Pink): only suitable for over 2kg babies

RESUSCITATION DRUGS GUIDE:

Adrenaline 1: 10,000
Dose 0.1ml – 0.3ml/kg weight
[via ET Tube route: 0.5-1ml/kg]

Sodium Bicarbonate 8.4% (1mmol/ml)
Dose 1mmol/kg weight (dilute 1:1 with water for injection or dextrose to make 4.2% strength)

Sodium chloride 0.9%
Dose 10ml/kg weight x2
Dextrose 10%
Dose 2.5 – 3ml/kg weight

SURFACANT DOSE GUIDE (first dose 200mg/kg)
Under 27 weeks 120mg
28 weeks 240mg
34 weeks 360mg

Acceptable term baby pre-ductal Oxygen Saturation levels
(Resus Council UK 2015)
2 mins 60%
3 mins  70%
4 mins  80%
5 mins  85%
10 mins  90%

REFERENCES:
UK Resuscitation Council Resuscitation and support of transition of babies at birth 2015
RCHT Newborn Life Support Guideline, Document library RCH
### Appendix 8.

**NEONATAL RESUSCITATION RECORD**

**Date of Birth:**

<table>
<thead>
<tr>
<th>Gestation</th>
<th>&lt;28 weeks</th>
<th>28-34 weeks</th>
<th>34-37 weeks</th>
<th>&gt;38 weeks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight/approximate weight</td>
<td>&lt;3kg</td>
<td>1.5-2kg</td>
<td>2-3kg</td>
<td>&gt;3.5kg</td>
</tr>
<tr>
<td>Adrenaline 1:10 000 UVC: 0.1ml-0.3ml/kg</td>
<td>0.1-0.3</td>
<td>0.2-0.6</td>
<td>0.3-0.9</td>
<td>0.4-1.2ml</td>
</tr>
<tr>
<td>Adrenaline 1:10 000 Via ETT (0.5ml/kg)</td>
<td>0.5</td>
<td>1.0</td>
<td>1.5</td>
<td>2.0</td>
</tr>
<tr>
<td>Sodium Bicarbonate 8.4% UVC: 2ml/kg dilute 50:50 with dextrose or sterile water</td>
<td>1ml</td>
<td>1-2ml</td>
<td>2-3ml</td>
<td>3-4ml</td>
</tr>
<tr>
<td>Dextrose 10% UVC: 2.5ml/kg</td>
<td>2.5ml</td>
<td>5ml</td>
<td>7.5ml</td>
<td>9-10ml</td>
</tr>
<tr>
<td>Sodium Chloride 0.9% or blood UVC: 10ml/kg</td>
<td>10ml</td>
<td>20ml</td>
<td>30ml</td>
<td>35ml</td>
</tr>
<tr>
<td>ETT use</td>
<td>2.5</td>
<td>3.0</td>
<td>3.5</td>
<td>3.5-4.0</td>
</tr>
<tr>
<td>ETT length at lips (cm)</td>
<td>5.5</td>
<td>6.0</td>
<td>6.5</td>
<td>7.0</td>
</tr>
</tbody>
</table>

**Additional notes, cord gases:**

**Staff present:**

<table>
<thead>
<tr>
<th>Transfer location</th>
<th>Parents updated?</th>
<th>Y</th>
<th>N</th>
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</thead>
<tbody>
<tr>
<td>NNU</td>
<td>Delivery Suite</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PN Ward</td>
<td>Other</td>
<td></td>
<td></td>
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</tbody>
</table>

**Sign:**

<table>
<thead>
<tr>
<th>Print name:</th>
<th>Date:</th>
</tr>
</thead>
</table>

**Newborn Life Support Clinical Guideline v6.0**

**Time resuscitation started:**

<table>
<thead>
<tr>
<th>Time</th>
<th>Assessment</th>
<th>Intervention</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
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<td>2</td>
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</tbody>
</table>

**Respiratory Effort**

<table>
<thead>
<tr>
<th>1 = Excellent cry</th>
<th>2 = Good/active</th>
<th>3 = pink</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 = Poor/weak cry</td>
<td>2 = Poor/some flexion</td>
<td>3 = blue</td>
</tr>
<tr>
<td>0 = Absent</td>
<td>0 = Absent</td>
<td>0 = white/pale</td>
</tr>
</tbody>
</table>

**Ventilation**

- When help was called and arrived
- Resuscitation details, inflation breaths, ventilation breaths given
- Saturation levels and oxygen requirements
- When baby first gasped
- ETT insertion (size/depth/who inserted/confirmation method)
- UVC insertion
- Medication/fluid administration (dose/route/time)
- Time heater turned off if applicable