

# 4-2 Unexpected need for Newborn Resuscitation v.1

The approach to the assessment, stabilisation and resuscitation of all babies should follow UK Newborn Life Support Guidance

## START

- 1 Call for help** (neonatal crash team)
  - ▶ Ask “who will be team leader?”
  - ▶ **Team leader assigns** checklist reader and scribe
- 2 Switch on** resuscitaire + heat source, check gas supply. Confirm initial settings (**Box A**)  
Start clock at time of baby’s birth. Note time
- 3 Start resuscitation algorithm**
  - ▶ Dry, wrap, stimulate and keep baby warm (if ≤ 32 weeks place undried in plastic wrap + radiant heat)
  - ▶ Put head in neutral position and open airway
  - ▶ Assess colour, tone, breathing, heart rate
- 4 Check breathing**
  - ▶ If gasping/not breathing → give 5 inflation breaths lasting 2-3 sec using settings (**Box A**) looking for chest movement with breaths *-and-* assessing heart rate after 5 breaths
  - ▶ If chest not moving → **5** if chest moving → **6**
- 5 Optimise airway (Box B) -and- repeat 5 inflation breaths**
  - ▶ Perform airway opening manoeuvres sequentially *-and-* repeat 5 inflation breaths until chest movement seen or HR increases then → **6**
- 6 Assess HR**
  - ▶ If HR > 60/min and increasing continue uninterrupted ventilation breaths 30/min until baby breathing adequately and HR >100/min
  - ▶ If HR < 60/min → optimise airway (**Box B**) and give 30s ventilation *-then-* reassess  
If HR remains < 60/min → **7**
  - ▶ Monitor saturations on right hand → titrate oxygen (**Box C**)
- 7 Start CPR and call senior neonatal help**
  - ▶ If not intubated consider intubation. Alternative is laryngeal mask (**Box D**)
  - ▶ Ventilate with 100% oxygen
  - ▶ Synchronise 3 chest compressions: 1 breath *-and-* ensure chest movement throughout
  - ▶ Check HR and chest movement every 30 sec
  - ▶ Continue CPR until HR > 60/min
  - ▶ If HR remains <60/min → insert UVC *-and-* give appropriate drug (**Box E**)
  - ▶ Check for pneumothorax, hypovolaemia, congenital abnormalities, kit failure

| Box A: Initial settings |                   |                         |                          |             |
|-------------------------|-------------------|-------------------------|--------------------------|-------------|
| Gestation weeks         | Inspired oxygen % | PIP cm H <sub>2</sub> O | PEEP cm H <sub>2</sub> O | Facemask mm |
| < 28                    | 30                | 25                      | 5                        | 35 - 42     |
| 28 - 31                 | 21 - 30           | 25                      | 5                        | 42          |
| > 31                    | 21                | 30                      | 5                        | 42 - 50     |

Inflation breaths: 5 breaths lasting 2 – 3 s    Ventilation breaths 30 / min

| Box B: Airway opening manoeuvres  |
|---|
| <b>Attempt steps sequentially. Reassess chest movement and HR after each step</b> |
| Optimise neutral head position  |
| Jaw thrust with another person assisting with ventilation                         |
| Oropharyngeal suction under direct vision   |
| Consider laryngeal mask ( <b>Box D</b> )  |
| Increase inspiratory pressure and / or inspiratory time                           |
| Consider intubation ( <b>Box D</b> )  |

| Box C: Acceptable preductal saturations |     |
|---|-----|
| 2 min                                   | 65% |
| 5 min                                   | 85% |
| 10 min                                  | 90% |

| Box D: Laryngeal mask and endotracheal tube placement |           |                              |           |                   |
|---|-----------|------------------------------|-----------|-------------------|
| Gestation weeks                                       | Weight kg | Laryngeal mask size          | ETT size  | Length at lips cm |
| ≤ 24  | ≤ 0.7     | Not recommended              | 2.0 – 2.5 | 5.0 – 5.5         |
| 25 - 26   | 0.8 – 0.9 | Consider in extremis         | 2.5       | 6.0               |
| 27 - 29   | 1.0 – 1.3 | Consider iGel size 1         | 2.5 – 3.0 | 6.5               |
| 30 - 32   | 1.4 – 1.8 | -or-                         | 3.0       | 7.0               |
| 33 - 34   | 1.9 – 2.2 | Laryngeal mask size 0.5 / 00 | 3.0       | 7.5               |
| 35 - 37   | 2.5 – 2.9 | iGel size 1                  | 3.5       | 8.0               |
| 38 - 40   | 3.1 – 3.5 | -or-                         | 3.5       | 8.5               |
| 41 - 43   | 3.6 – 4.2 | Laryngeal mask size 1        | 4.0       | 9.0               |

| Box E: Drug doses   |
|---|
| <b>Adrenaline</b> (every 3-5 min if HR <60/min) 20 mcg/kg (0.2 ml/kg of 1:10,000 [0.1 mg/ml]) |
| <b>Glucose</b> 250 mg/kg (2.5 ml/kg of 10% glucose solution)                                  |
| <b>Sodium bicarbonate</b> 1–2 mmol/kg (2 – 4 ml/kg of 4.2% solution)                          |
| <b>Fluids</b> 10 mL/kg O Rh-negative blood or isotonic crystalloid                            |

