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

❶ **Call for help** (neonatal crash team)
- **Ask** "who will be team leader?"
- **Team leader assigns** checklist reader and scribe

❷ **Switch on** resuscitaire + heat source, check gas supply. Confirm initial settings (**Box A**)
Start clock at time of baby's birth. Note time

❸ **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

❹ **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 <u>not</u> moving ➔ ❺ if chest moving ➔ ❻

❺ **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 ➔ ❻

❻ **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 ➔ ❼
- Monitor saturations on right hand ➔ titrate oxygen (**Box C**)

❼ **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_20	**PEEP** cm H_20	**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

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

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

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