Appendix 2

Optimal Cord Management at preterm deliveries ≤32 weeks using the LifeStart

Equipment

- **LifeStart Resuscitaire**
  - Plastic suit / plastic bag and hat
  - Respiratory support tubing & face masks
  - Suction catheter
  - C-Section - Sterile drape for trolley & sterile plastic bag / plastic suit

Prepare

- Check and sets up LifeStart resuscitaire & standard resuscitaire
- Connect the respiratory support tubing & suction catheter, sets pressures (25/5)
- C-Section - Idenitifed doctor / ANNP srubs and drapes trolley in sterile manner
- Ensure room temperature 23-25 degrees

Position

- Agree position of LifeStart with maternity staff (suggeted left side of mothers bed)
- Adjust platform height as required (requires mains power)
- Keep LifeStart at forefront to be moved into position when required

Communicate

- Neonatal team to communicate plan for delayed cord clamping for at least 60 seconds with cord intact stabilisation (C-section communicate in WHO check list)
- Update parents (leaflet if avaliable)

Delivery & Thermal Care

- Infant delivers, start clock on LifeStart and **standard resusciatire**
- Manage baby on LifeStart platform
- Place baby into plastic suit/ plastic bag
- Dry head & place hat (hood of plastic suit at C-section)
- Airway positioning, gentle stimulation
- Assess babies colour, tone breathing, heart rate

Respiratory Support

- Cord Intact stabilisation using respiratory support system as per NLS
- Spontaneously breathing - apply PEEP
- No respiratory effort - Inflation +/- ventilation breaths

(ensure lung inflation prior to clamping cord)

60 seconds Delayed Cord Clamping

Cord Clamped

- After at least 60 seconds and up to 120 seconds **ask for cord to be** clamped
- move infant to standard resuscitaire, apply saturation probe
- Stabilisation, thermal care and respiratory support continues
- Check temperature **immediately after DCC** and **prior to transfer to NICU**
- Update parents, delivery room cuddle if possible, show infant to parents
- Transfer to Neonatal Unit

Optimal Cord Management using LifeStart, East of England guideline (draft 2025)

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Optimal Cord Management at preterm deliveries ≤ 32 weeks using the LifeStart

Duties and responsibilities for all staff

- To use LifeStart in all preterm deliveries (≤ 32 weeks) to facilitate DCC for at least 60 seconds
- All multidisciplinary staff involved in the delivery of preterm babies should assist in facilitating the practice of DCC
- If possible, parents should be made aware prior to delivery that deferred cord clamping will take place (see parent leaflet)

Responsibility of labour ward midwifes

- Wipe clean LifeStart with clinell wipe after each use and place a clean sheet over mattress
- Bring LifeStart to all deliveries of babies < 32weeks.
- Bring other equipment*:* 1 plastic bag/ plastic suit, respiratory support circuit, suction catheter (10F), appropriate size facemasks, small hat.
- Daily check of mattress integrity, mattress power, Apgar timer power, respiratory support system
- Collect sterile drapes for caesarean sections
- LifeStart should be left plugged into mains and mattress heating on. If left turned off, LifeStart needs to be switched on daily for 30 minutes to boost the battery pack. Battery has 30 minutes run time to power mattress once fully charged. Mains power is needed for height adjustment.

Responsibility of NICU team

- Ensure all eligible infants have DCC for a minimum of 60 seconds and document in resuscitation notes and badger, if this cannot be achieved, to record time of cord clamping and reason.
- Temperature to be checked and recorded at 2 time points:
  1) After DCC complete
  2) Before transfer to NICU

  Appropriate measures should be taken to improve temperature and documented in resuscitation notes. The heating mattress is not very effective on LifeStart, the aim is to prevent heat loss rather than to warm the baby up. Ensure optimal environment for preterm delivery, room temperature 23-25°C, for infants < 28 weeks >25°C, fans turned off, pre warm plastic suit / plastic bag and hat on standard resuscitaire.

Prior to delivery

Preparation

- NICU nurse (with Qualification in Speciality and up to date NLS) to attend all preterm deliveries ≤ 32 week to support DCC using LifeStart
- Check LifeStart is available at delivery with LifeStart equipment
- Resuscitation trolley to be brought for ≤ 32 week by NICU nurse as per unit guidance
- Use plastic bag / plastic suit routinely for all babies ≤ 32 weeks.

- Ask midwife to switch off fans, check room temperature and prevent drafts.

Communication

- NICU doctor to inform all staff that DCC will be done and check for contraindications
- DCC to be mentioned during WHO checklist in theatres
- Inform Parents that DCC will be done (parent leaflet)

Layout:

- Neonatal team to set up equipment agree position with obstetric / midwifery team. *Suggested position to the left side of mother's bed*
- LifeStart to be kept at forefront
- LifeStart to be plugged in and connected to oxygen and air supply, standard resuscitaire to be attached to usual gas supply.
- LifeStart timer beeps every minute for 1, 2 and 3 minutes
- Ensure standard resuscitaire and LifeStart timers are started in synchrony.

Role allocation in set up

NICU nurse	**NICU doctor/ANNP**
• Connect LifeStart to power • Turn on mattress and set at to 40 C • Switch on LifeStart timer • Check air and oxygen supply (walled gas or cylinders) • Check suction (runs off oxygen) • Prepare plastic bag or plastic suit • Check standard resuscitaire as you do for every delivery	• Help to check LifeStart and standard resuscitaire • For LifeStart turn flow to 10l/min and check pressures (25/5). • Adjust LifeStart height to mother's abdomen/introitus height • Communicate to team and parents • Confirm agreed position of LifeStart at delivery with midwifes and/or obstetrician.
In Theatre	***In Theatre***
• Assist scrubbed NICU doctor • Open and pass sterile drape, Respiratory tubing, mask and suction catheter • Clean stethoscope with clinell wipe • Assist in draping LifeStart, setting up respiratory support system and connecting suction catheter. • Open sterile plastic suit if required • Ensure towels warming	• Scrub • Receive and place a sterile drape over LifeStart • Receive a new clean respiratory circuit, mask and suction catheter • Receive and open up sterile plastic suit if required • Ensure happy with inflation pressures (25/5)

Role allocation in stabilisation of baby

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Obstetrician/ Midwife	**Lead Neonatal doctor/ANNP**	**NICU nurse / SHO**
• Help to guide LifeStart into agreed position • Help place baby on LifeStart inside plastic bag / plastic suit • Ensure cord is not kinked, do not handle cord unnecessarily • No need to check for arterial pulsations, as DCC is about venous return from placenta to baby • Cut cord at 60 seconds	• Move LifeStart to agreed position close to the mother and <u>apply the brake</u> • Start LifeStart timer as baby delivers (hold button until all 4 lines have disappeared) • Place baby on LifeStart inside plastic suit / plastic bag • Assess colour, tone breathing, heart rate, • Commence stabilisation • **Ensure lung inflation is achieved with regular respiration / ventilation prior to cutting the cord**	• Help position LifeStart • **Ensure flow at 10L/min** • Start timer on standard resuscitaire • Note APGAR score • Assist stabilisation, listen to heart rate with cleaned stethoscope • Release brake and help to move LifeStart after the cord is cut • LifeStart can be moved up to mum's head end temporarily if baby stable. • On resuscitaire place saturation probe on baby's right wrist. • Ensure head is covered, place a hat • **Check and record temperature** **1. After DCC at 60 seconds** **2. Before transfer to NICU.** Take action if temperature <36.5°C

Auditable Standards

1. Number of eligible babies (≤ 32 weeks) who are stabilised on the LifeStart resuscitaire

2. Number of eligible babies (≤ 32 weeks) who have at least 60 seconds of deferred cord clamping

3. Babies temperature on delivery suite and on admission to NICU

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