Newborn Resuscitation Algorithm

RESUSCITATION COUNCIL OF SOUTHERN AFRICA

2025

Preparation
Equipment
Team
Risks

Cord management strategy
Timing of clamping
Milking?

INITIAL IMPRESSION
Term gestation?
Breathing and good tone?
(Delayed cord clamping when possible)

Breathing and tone normal → Routine care with mother Skin-to-skin care preferred

Breathing/tone poor

Provide warmth
Clear airway if necessary
Dry and stimulate
(Don't dry if < 30 weeks – wrap preterm baby's torso in plastic bag)
Document the time

ASSESS BREATHING and/or HEART RATE
Target saturation as per table*

HR >100 → Continuous assessment consider nCPAP for ongoing respiratory distress

Gasping, apnoeic or heart rate < 100?

START VENTILATING WITH ROOM AIR
(Rate: 30-40 breaths/min)
Use oxygen if preterm starting at 30-40%
Connect to pulse oximeter if available, avoid hyperoxia
Ensure chest rise with each breath

Oxygen administration
Use blended oxygen if available to achieve targeted pre-ductal sats
Alternatively:
Bag with no O_2 = 21%
Bag with O_2 = 40%
Bag with O_2+ reservoir bag ≈ 100%

*Normal pre-ductal sats after birth (right hand or ear)
1 min: > 60%
2 min: > 65%
3 min: > 70%
4 min: > 75%
5 min: > 80%
> 10 min: 90-95%

ASSESS BREATHING, HEART RATE AND O_2 SATS/COLOUR EVERY 30-60 SECONDS

Heart rate less than 100/min

Ventilate with supplemental oxygen as required
Consider intubation (LMA can be used in >28 weeks)

ASSESS BREATHING, HEART RATE AND O_2 SATS/COLOUR EVERY 30-60 SECONDS

Heart rate less than 60/min

Continue ventilating with 100% oxygen, titrate down as required
Start chest compressions with coordinated ventilation
(3 compressions: 1 breath)
Each cycle should take 2 seconds

ASSESS BREATHING, HEART RATE AND O_2 SATS/COLOUR EVERY 30-60 SECONDS

Heart rate less than 60/min

Continue compressions and ventilation
Give 0.1-0.3ml/kg Adrenaline IV (1:10 000 dilution)
(1ml/kg Adrenaline ETT (1:10 000 dilution) only if no IV access)
May repeat Adrenaline IV after 3-5 minutes
Correct hypovolaemia if necessary
(10ml/kg normal saline over 5-10 minutes)
Consider pneumothorax/Check glucose

Post-resuscitation care
Maintain normothermia:
36.5-37.5° C
Consider induced hypothermia where available according to protocol

If ongoing respiratory distress consider nasal CPAP and surfactant as required according to protocol
Maintain sats 90-95%

Golden minute = Birth to 60 sec

Check and manage the glucose and temperature to normal

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