This pathway is intended for the recognition and immediate management of early and late onset sepsis during the episode of care associated with the newborn’s birth. For readmission after birth please use the Paediatric Sepsis Pathways.

**ARE YOU CONCERNED THAT THE NEWBORN COULD HAVE SEPSIS?**

Does the newborn have any of the following sepsis signs or symptoms present?

**General**
- Pale/mottled
- Lethargic
- Abnormal tone
- Poor feeding
- Pyrexic/hypothermic
- Cool peripheries

**Respiratory**
- Apnoeic
- Tachypnoeic
- Grunting
- Nasal flaring
- Chest recession
- Cyanotic

**Cardiovascular system**
- Tachycardic
- Bradycardic
- Hypotensive
- Delayed capillary refill

**Central nervous system**
- Bulging fontanelle
- High pitched cry
- Irritability
- Abnormal movements
- Jittery

**Focal**
- Rash/Petechiae
- Cellulitis/Red umbilicus
- Vomiting
- Diarrhoea
- Joint swelling
- Line associated infection

**Does the newborn have any Yellow or Red Zone Observations (including oxygen saturation) on the *SNOC or is there clinician concern of sepsis?** (*Standard Newborn Observation Chart)

- **YES**
- **NO**

**CLINICAL SUSPICION OF SEPSIS**

The newborn has **SEVERE SEPSIS** or **SEPTIC SHOCK** until proven otherwise

- Sepsis is a medical emergency
- Call for a Rapid Response (as per local CERS) unless already made
- Direct close observation

**The newborn may have SEPSIS**

- Call a Clinical Review (as per local CERS) unless already made
- Look for other causes of deterioration and initiate appropriate clinical care
- Obtain early **SENIOR CLINICIAN** review within 30 minutes
- Remain with the newborn
- Does the senior clinician consider the newborn has sepsis?

- **YES**
- **NO**

**Discuss management plan with the newborn’s family/carers**

**Continue to monitor observations on the SNOC**

- Look for other causes of deterioration and treat as per local guidelines
- Repeat observations within 30 minutes AND increase the frequency of observations as indicated by the newborn’s condition
- Document decision/diagnosis and management plan in the health care record
- Re-evaluate for sepsis if observations become abnormal or deteriorate

**Commence treatment as per sepsis resuscitation guideline (over page)**

AND inform the Attending Medical Officer (as per local CERS)**
Continually monitor, assess and manage the newborn's airway, breathing and circulation every 30 – 60 seconds (connect monitoring equipment e.g ECG, SpO₂, BP, thermometer)

Correct problems with airway and breathing before proceeding to circulation

Consider supporting the thermal environment to keep newborn warm during ongoing management

Consider potential source of sepsis

| A | Airway - Assess and maintain patent airway |
|   | Position | Suction |
|   | Adjunct e.g. Laryngeal mask (LMA)/guedel |

| B | Breathing - Assess and administer respiratory support if required |
|   | Oxygen | IPPV |
|   | CPAP |

| C | Circulation - Assess and consider need for circulatory support |
|   | Obtain vascular access (IV / Umbilical / Intraosseous) and blood collection |

Call for expert assistance after two failed attempts at cannulation and/or consider access via umbilical/intraosseous route

|   | Peripheral IV | Umbilical | Intraosseous (contraindicated if <2kg) |

**PRIORITY**

| Collect Blood Glucose | Yes |
| Collect Blood Gas / Lactate | Yes | Not obtained |
| Collect Blood Cultures | Yes | Not obtained |

**DON’T EVER FORGET TO CHECK BLOOD GLUCOSE**

Dependent on volume of blood sample/second collection consider taking

- FBC
- EUC
- LFT
- CRP
- Coags
- Procalcitonin
- Other (Specify):
Circulation

**ANTIBIOTICS ADMINISTERED** Yes ☐

Date: __ __/ __ __/ __ __  Time: __ __: __ __

Prescribe and administer IV antibiotics within **60 minutes** of recognition

Aim to obtain at least one set of blood cultures prior to antibiotic administration. If difficult to obtain

**DO NOT** delay antibiotics

Consider alternate source of infection (including viral) and/or resistance

Refer to Attending Medical Officer for antibiotic prescribing regimen

**FLUID RESUSCITATION** Yes ☐ No ☐

Date: __ __/ __ __/ __ __  Time: __ __: __ __

Aim for improvement in heart rate, capillary refill or colour

Administer initial 10mL/kg 0.9% sodium chloride

If required, repeat 10mL/kg 0.9% sodium chloride

Reassess need for circulation support

Before further fluid bolus refer to Attending Medical Officer/Tiered Maternity and Neonatal Network and consider vasopressors

Where available refer to local guidelines for IV antibiotics and fluid resuscitation

D Disabiliy - Assess lethargy, tone, cry, response and posture

E Exposure - Fully assess the newborn. Prescribe any additional tests and investigations. Reassess and identify source of sepsis. Review maternal tests and investigations

F Fluid - Monitor and document strict fluid input/output (e.g. measure the nappy weight)

G Check Blood Glucose Level - Manage as per local guidelines

Monitor, Reassess and Treat

Continue to assess Airway, Breathing and Circulation and treat accordingly

Monitor and assess for signs of deterioration and escalate as per local CERS

**INTENSIVE CARE MAY BE REQUIRED**

Discuss the newborn’s condition with the Attending Medical Officer ☐ Yes

Update the mother’s care team on the newborn’s condition ☐ Yes

Discuss the management plan with the newborn’s family / carers ☐ Yes

Sepsis management plan documented by a medical officer in the health care record as per page 4 (over) ☐ Yes

Does the local/regional neonatal expert/Tiered Maternity and Neonatal Network or NETS need to be contacted for advice on management and referral? ☐ Yes ☐ No

NETS Tel: 1300 36 2500

Ensure clinical handover is given using ISBAR

Name: ____________________________  Designation: ____________________________  Signature: ____________________________
**SEPSIS MANAGEMENT PLAN**

Newborns with presumed sepsis are at high risk of deterioration despite initial resuscitation with intravenous antibiotics and fluids. These newborns require a management plan that must be discussed with the Attending Medical Officer (AMO). The Infectious Disease/Clinical Microbiology Specialist and Antimicrobial Stewardship team are to be consulted where necessary. The management plan should be communicated to the Senior Medical Officer, Midwife/Nurse in Charge, and the newborns family/carers.

Specific management plans are to be documented in the newborn’s health care record.

### Initial 24 hours

**Monitoring**
- Initiate continuous cardiorespiratory/oximetry monitoring
- Prescribe the frequency of documented observations
  
  Minimum recommendation every 30 minutes for 2 hours, then hourly for 4 hours (continue as directed by Senior Medical Officer)
- Monitor Blood Glucose as per local guidelines
- Monitor and reassess for signs of sepsis - clinical deterioration may include one or more of the following:
  - Pale in colour, mottled, abnormal tone
  - Apnoea, tachypnoea (respiratory rate in the Red or Yellow Zone)
  - Persistent tachycardia, slow capillary refill (> 3 seconds), bradycardia, hypotension
  - Hypothermia
  - Acidosis or increasing serum lactate level
  - Hypoglycaemia, thrombocytopenia, leukopenia or abnormal coagulation

If deteriorating (has any Red or Yellow Zone criteria), escalate as per your local CERS and inform AMO

**Fluid resuscitation**
- Prescribe IV fluids as appropriate based on the newborn’s condition
  
  Monitor for signs of fluid overload/hypovolaemia

**Reassess**
- Confirm diagnosis and consider other causes of deterioration (e.g. congenital heart disease, metabolic disorders, hypovolaemia)
- Check preliminary results and consider repeats
  
  If the newborn is neutropenic, review antibiotics and change if required

**Review treatment/management**
- Discuss with AMO
- Document a plan to continue, change or cease antibiotics
- Continue monitoring for signs of deterioration
- Senior Medical Officer to discuss the goals of care with the newborn’s family/carers

### 24 - 48 hours

**Reassess**
- Actively seek microbiology/investigation results and review
- Confirm diagnosis and document source of sepsis in the health care record
- Discuss with AMO
- Document a plan to continue, change or cease antibiotics
- Repeat biochemistry/haematology as indicated
- Update the mother’s care team on the newborn’s condition/diagnosis
- Continue monitoring for signs of deterioration

**Continue to monitor as per newborn’s condition – observations, medical review, antibiotics**