

MEET YOUR FACILITATOR
FOR THIS SESSION



**DR. BEATRICE
EZENWA**

MBBS, FMCPaed, MSc. (Neonatology)

**Associate Professor &
Consultant Neonatologist**



ICSA LEARNING SERIES

MODULE 1 · SESSION 7

Neonatal Sepsis



Wed 16 SEP, 2026



10:00 – 11:00 AM WAT



Certificate of Participation
Attend 75% of Module 1 sessions to earn
your certificate.

REGISTER FREE - ON ZOOM

<https://bit.ly/cslearningseriesregistration>

**SCAN TO
REGISTER:**



Welcome

PRETEST



Learning Certification Requirement

Attend at least 70% of the Module 1 sessions

Be present for at least 70% of each learning session

Complete both the pre- and post-session assessments for at least 70% of the sessions attended.



Module 1 Session 7

Neonatal Sepsis for PHC Practitioners in Nigeria

Beatrix Ezenwa

Assoc. Professor/ Neonatologist

College of Medicine, University of Lagos, Nigeria



Neonatal Sepsis in Nigeria: Recognise, Stabilise, Refer

Learning objectives

- Understand what Neonatal sepsis is
- Recognise risk factors and clinical signs of neonatal sepsis using the WHO 7-sign IMCI algorithm
- Initiate immediate PHC-level management
- Facilitate prompt referral and caregiver follow-up



"What Do You See?"

"A 4-day-old baby is brought to your PHC. The mother says the baby has not breastfed since yesterday. On examination, the baby is warm to touch, moves only when you stimulate, and has severe chest indrawing."

"What concerns you most about this baby?"

- A. Not feeding
- B. Warm to touch (fever)
- C. Reduced movement
- D. Difficulty breathing
- E. All of the above

"Select all that concern you about this baby and type your answer in the chat."



DEFINITION — WHAT IS NEONATAL SEPSIS?

- **Definition:** A blood infection in a newborn — a systemic bacterial infection confirmed by a positive blood culture or strongly suspected based on clinical signs.

Feature	Early-Onset Sepsis (EOS)	Late-Onset Sepsis (LOS)
Timing	First 72 hours of life (Day 0–2)	After 72 hours of life (Day 3+)
Source	Acquired from the mother during birth	Acquired from the environment (hospital or community)
Leading Pathogens in Nigeria	<i>E. coli</i> , <i>Klebsiella</i> , <i>Candida albicans</i> , <i>Pseudomonas aeruginosa</i>	<i>S. aureus</i> , <i>E. coli</i> , <i>Klebsiella</i>

WHY THIS MATTERS — THE BURDEN OF NEONATAL SEPSIS

- Most of the **2.3 million annual neonatal deaths** occur in Sub-Saharan Africa and South Asia
- Neonatal sepsis and perinatal asphyxia are the **leading causes of neonatal mortality**
- In Nigeria: Neonatal sepsis = **35.3%** of newborn admissions in a Nigerian tertiary study
- Neonates with sepsis have a **40-fold increase** in mortality
- Approximately **570,000 neonatal deaths** globally per year from sepsis

RISK FACTORS — WHAT MAKES A NEWBORN AT RISK?

Maternal / Intrapartum	Neonatal
PROM > 18 hours	Prematurity / LBW
Maternal fever in labour	Birth asphyxia
Unclean delivery	Male sex
Maternal UTI / chorioamnionitis	Congenital anomalies
Home delivery without skilled attendant	Invasive procedures

"Type **YES** in the chat if you routinely ask about rupture of membranes at every newborn visit. Type **NO** if you do not."

The WHO 7- Sign Algorithm for PSBI

Possible Serious Bacterial Infection (PSBI) — one or more of:

1.  Not feeding well / not able to feed at all
2.  Movement only when stimulated / no movement
3.  Temperature $\geq 38^{\circ}\text{C}$
4.  Temperature $< 35.5^{\circ}\text{C}$
5.  Severe chest indrawing
6.  Convulsions
7.  Fast breathing (≥ 60 breaths/min)

- In a neonate, any of these signs should make you think **sepsis** until proven otherwise.

- **Sensitivity:** 0.79–0.84 | **Specificity:** 0.77–0.78

**PRACTICE
RECOGNISING
THE DANGER
SIGNS**

Case: Baby A, 5 days old, brought to PHC by grandmother. Mother had home delivery, no skilled attendant.

Findings:

- Not breastfeeding since morning
- Temperature: 38.4°C
- Moves only when stimulated
- Severe chest indrawing

"Using the 7-sign algorithm, classify this baby: Type on the chat"

- A. Severe pneumonia
- B. Clinical Severe Infection (CSI)
- C. Critical illness
- D. No serious infection

The Answer is **B)**
**Clinical Severe
Infection.**

"This baby meets four
criteria. This baby
requires immediate
action. You cannot
wait for lab results."

DIAGNOSTIC WORKUP (if available)

Essential Investigations:

- **Blood culture** — GOLD STANDARD. **Must be done BEFORE starting antibiotics**
- Full blood count — white cell count, differential, platelets
- C-reactive protein (CRP) — inflammatory marker
- Lumbar puncture — if meningitis is suspected
- Chest X-ray — if respiratory symptoms are present

In resource-limited settings:

- At minimum, **blood culture** and **full blood count** should be done if available
- Clinical diagnosis is often necessary when laboratory facilities are limited

PHC-Level Pre- Referral Management — CSI

For Clinical Severe Infection (CSI):

- **Give IM Gentamicin** — first dose immediately (dose per weight)
- **Commence oral Amoxicillin BD** for 7 days
- **Counsel mother** to return immediately if condition worsens
- **Promote exclusive breastfeeding**
- **Keep baby warm**
- **Assess daily; Day 4 assessment mandatory**
- **Refer** as soon as referral becomes possible

"THAT FIRST DOSE IS NOT OPTIONAL."

"Type in the chat — what is the dose of gentamicin for a 3 kg baby?"



When Referral Is Not Immediately Possible

Nigerian evidence: 87.7% of families refused or could not access hospital referral for PSBI. Outpatient treatment with **2 days IM gentamicin + 7 days oral amoxicillin** achieved **97% cure** and only 3 deaths among 721 infants treated.

PHC-level regimen when referral not feasible:

- IM Gentamicin — once daily for 2 days (CSI) or 7 days (Critical Illness)
- Oral Amoxicillin — twice daily for 7 days
- **Mandatory follow-up:** Day 4 assessment; daily if possible
- **Re-refer** as soon as referral becomes possible

"Type ONE barrier to referral in your facility in the chat."

Referral Pathway Mapping — Step by Step

REFERRAL PATHWAY — 6 STEPS

1: **Identify** referral facility —
confirm capacity by phone

2: **Fill** two-way
referral form
in triplicate

3:
Document in
facility
register

transport —
community
systems; health
worker
accompanies if

5:
Communicate u
sing **SBAR**

6: **Give copy** of
referral form to
caregiver

SBAR:

- **S**ituation: "5-day-old with clinical severe infection"
- **B**ackground: "Home delivery, not feeding since morning"
- **A**ssessment: "Temp 38.4°C, poor tone, chest indrawing"
- **R**ecommendation: "First dose gentamicin given; needs admission for IV antibiotics"

Caregiver Follow-Up — Closing the Loop

Before the caregiver leaves your PHC:

- Explain **why** referral is urgent — use simple language
- Give **written referral form**
- **Collect phone contacts** — caregiver + second family member
- **Schedule follow-up:** "I will call you in 24 hours"
- **Counsel on danger signs:** poor feeding, fever, cold body, convulsions, fast breathing

After referral:

- Phone receiving facility within 24–48 hours
- Document outcome in PHC register
- If caregiver did not go: home visit or community health volunteer follow-up

"The referral is not complete when the baby leaves your door. It is complete when you know the baby was admitted. A phone call takes two minutes and can save a life."



Key Takeaways and Action Plan

Three things to do tomorrow:

- **Post the 7-sign algorithm** at your consultation desk
- **Check your stock** of IM Gentamicin and oral Amoxicillin — report stock-out today
- **Identify your nearest referral facility** and save their phone number

Remember:

- **Recognise:** 7 signs
- **Stabilise:** First dose IM Gentamicin + oral Amoxicillin
- **Refer:** Two-way form + SBAR call
- **Follow up:** Phone call + caregiver counselling

Q & A



POST TEST

Every child matters



Next Session - Overview of Module 1

covers the critical first days of life, equipping frontline health workers with expert-led, practical knowledge on newborn care, from birth through the first weeks of life.

PERIOD	TOPIC	PRESENTER	DATE
1	Essential Newborn Care Thermal care, cord care, breastfeeding, infection prevention, danger signs	Assoc. Prof. Ezenwa Beatrice	Wed, 24 Jun 2024
2	Newborn Danger Signs Recognition drills, triage exercises, caregiver counselling	Prof. Zubaida Farouk	Wed, 8 Jul 2026
3	Neonatal Resuscitation Bag-and-mask simulation, team scenarios, equipment readiness	Assoc. Prof. Ezenwa Beatrice	Wed, 22 Jul 2026
4	Birth Asphyxia Stabilization simulation, referral decision-making, case review	Prof. Zubaida Farouk	Wed, 5 Aug 2026
5	Preterm & Low Birth Weight Care Kangaroo mother care, feeding plans, referral guidance	Assoc. Prof. Ezenwa Beatrice	Wed, 19 Aug 2026
6	Neonatal Jaundice Severity assessment, referral timing, caregiver counselling roleplay	Prof. Zubaida Farouk	Wed, 2 Sep 2026
7	Neonatal Sepsis Risk factors, first-line management, referral pathway mapping	Assoc. Prof. Ezenwa Beatrice	Wed, 16 Sep 2026
8	Vaccine Hesitancy & Risk Communication Rumour management, roleplay, community engagement planning	Prof. Zubaida Farouk	Wed, 30 Sep 2026
9	Interactive Review — Periods 1–8 Case presentations, knowledge quiz, experience sharing	Module Facilitators	Wed, 14 Oct 2026

Thank You

