

# A Review of the Management of Paediatric Sepsis on the University Paediatric ward in the Karapitiya Teaching Hospital, Galle, Sri Lanka.

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## Background:

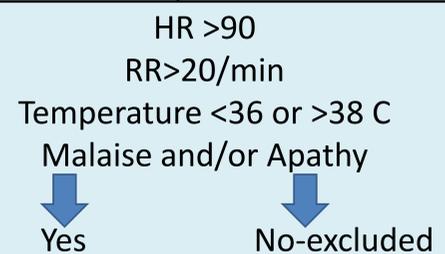
- Sepsis is defined as the “systemic inflammatory response syndrome” (SIRS) in the presence of highly suspected or known infection.
- Sepsis is a leading cause of death in both the developed and developing world with over 70% of the 9 million paediatric deaths globally in 2008 being due to sepsis.
- The timely identification and implementation of an appropriate treatment bundle for sepsis are likely to improve outcomes for the patient.
- The Surviving Sepsis campaign issued revised guidelines for the management of cases of paediatric sepsis in 2008, but these do not take into account the limitations in resources many countries face.
- In 2012, the World Federation of Paediatric intensive and critical care societies wrote a set of revised guidelines for the management of paediatric sepsis in resource poor areas.

## Methods:

A prospective audit of all cases of confirmed/suspected paediatric sepsis admitted to the University Paediatric Ward in 10 days of May 2013.

All children aged 0-16 years admitted with a suspected/confirmed infection .

Inclusion Criteria (>= 2 of the following)



Audit of the notes conducted against set standards from the World Federation of Paediatric intensive and critical care society's guidelines (WFPICCS) (Table 2)

## Aims:

- Review the practice surrounding the immediate management of children with suspected/confirmed sepsis against the WFPICCS guidelines when admitted to hospital.
- Provide recommendations on how the management could be improved.

## Standards Audited:

- Fluid management**- was an initial bolus of crystalloid >20ml/kg administered?
- Oxygen administration**- was oxygen administered? Were saturations maintained at >90%?
- Antimicrobial administration** – was empirical antimicrobial therapy given? Was this within one hour of recognising sepsis?
- Appropriate use of microbiological cultures** – were appropriate cultures taken? Was this before administration of antibiotics?
- Was the source of infection identified?**



## Results:

- 45 children included
- Age range: 2 months-12years
- 44.4% female (20/45)
- Source of infection identified in 93% cases.

Table 1: Infection type present in cases and how the diagnosis was made.

Type of Infection	Number (%)
Lower respiratory tract Infection ( CXR/clinical signs)	60% (27/45)
Meningitis/Suspected Meningitis ( Clinical signs/LP)	6.7%(3/45)
Abscess (Clinical signs/swab culture)	8.9%(4/45)
Urinary Tract Infection (Clinical Signs/Urine Culture)	8.9%(4/45)

Table 2:

Standard	Number of cases where fulfilled	Percentage	Comment	Unrecorded
Fluids Given	11/45	24%	None given at >20ml/kg	6.7%(3/45)
Oxygen given	6/45	13%	95% had saturations >90% even if not on O <sub>2</sub> .	6.7%(3/45)
Antibiotics given	41/45	91%	43.8% (14/32) when timing recorded were administered within one hour.	-
Cultures Taken	18/45	40%	55% (10/18)taken before antibiotic administration 1/18 taken after.	15.6%(7/45) no recorded time

## Conclusions and Recommendations:

- Despite 91% receiving antibiotics, in only 43.8% cases this was within one hour. This is likely to be a factor that could significantly affect patient outcomes.
- only 40% had cultures taken which can affect the ability to identify and later treat the causative organism.
- Both these issues could be addressed by introducing a policy of giving antibiotics at the time of taking cultures thereby prompting the clinician to undertake both management steps quickly.
- Awareness should also be raised amongst clinical staff about the guidelines via posters and meetings to ensure that they are aware of the current problems and the appropriate management steps.
- A plan to re-audit should be implemented to check any measures introduced are successful.

## Acknowledgements and

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