Maternity Education Program

Sepsis Antenatal

Participant Resource Kit

CSDS

Clinical Skills Development Service

Queensland Government

Maternity Education Program

The resources developed for Maternity Education Program (MEP) are designed for use in any Queensland Health facility that care for patients/women who are pregnant/birthing or postnatal.

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Sepsis Antenatal – Facilitator Resource Kit

Published by Clinical Skills Development Service
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Who is this resource kit for?

This resource kit provides healthcare workers with knowledge and skills on assessing and managing maternal sepsis in the antenatal period.

Target audience

Midwifery and medical staff providing maternity care

Duration

45 mins (including setup, simulation and debrief)

Group size

Suited to small groups (6 – 8)

Learning objectives

By the end of the session, the learner should be able to:

- Recognise and respond to a clinically deteriorating patient.
- Demonstrate the clinical management of a labouring woman with sepsis.
- Assess the possible cause of the maternal sepsis and management.
- Demonstrate the clinical management of a birth and the fetus in the context of sepsis.

Supporting documents

- List of further readings
- SOMANZ Flowchart for assessment and management of sepsis in pregnancy
- Sepsis flow diagram
- CTG assessment tool

Overview

Despite an overall decline in maternal mortality in Australia, the maternal mortality rate from sepsis has increased. In the period 2008–2012, sepsis accounted for 11.4% of maternal deaths in Australia. Group A beta haemolytic streptococcal (GAS) infection is the most common pathogen, resulting in 25% of maternal deaths from sepsis in Australia. Sepsis continues to be one of the major causes of maternal mortality among Aboriginal and Torres Strait Islander women[1].

Despite significant advances, understanding of the pathobiology of sepsis remains incomplete and currently no gold standard diagnostic test exists to confirm the presence of sepsis. Sepsis is broadly defined as life-threatening organ dysfunction caused by a dysregulated host response to infection.

Early detection of sepsis is essential for appropriate multidisciplinary management to ensure the best outcomes for the mother and her baby. Septic patients may progress to develop septic shock, multi-organ failure and death.

Recognising the patient with sepsis is paramount and is the first step in appropriate assessment and management.

Screening for maternal sepsis should be performed using the omqSOFA (obstetrically modified quick sepsis related organ failure assessment) which helps account for some of the changes due to maternal physiology.

Cultures and investigations are ideally done prior to antibiotic administration, waiting for investigations should **NOT** delay therapy. Treatment for suspected sepsis should begin as soon as possible - ideally within the **'Golden Hour'.**

In critically ill pregnant women with sepsis, stabilising the mother is the priority. Once in an ICU environment the obstetric team should liaise with the ICU team to plan fetal monitoring and delivery time. Continuous CTG monitoring is recommended.

Attempting delivery in the setting of maternal instability increases both maternal and fetal mortality[2].

Obstetric Emergency is any clinical situation involving a maternity patient where immediate medical/ midwifery assistance is required.

1 SOMANZ Guideline for the Management of Sepsis in Pregnancy 2017

2 Royal College of Obstetricians and Gynaecologists. Bacterial Sepsis in Pregnancy. Green-top Guideline No. 64a. RCOG. 2012. Available from: www.rcog.org.uk/globalassets/documents/guidelines/gtg_64a.pdf

Further Readings

SOMANZ Guidelines for the Investigation and Management of Sepsis in Pregnancy – Society of Obstetric Medicine Australia and New Zealand

The document addresses the issue of sepsis in the peri-partum period. It contains a number of recommendations to guide clinical practice and improve patient outcomes. We have identified several key outcomes that can be audited allowing individual centres to assess their performance in implementation of these guidelines.

https://www.somanz.org/downloads/2017SepsisGuidelines.pdf

Bacterial Sepsis in Pregnancy Green-top Guideline No. 64a April 2012

The scope of this guideline covers the recognition and management of serious bacterial illness in the antenatal and intrapartum periods, arising in the genital tract or elsewhere, and its management in secondary care.

https://www.rcog.org.uk/globalassets/documents/guidelines/gtg_64a.pdf

SMFM Consult Series #47: Sepsis during pregnancy and the puerperium

The purpose of this guideline is to summarize what is known about sepsis and to provide guidance for the management of sepsis in pregnancy and the postpartum period.

https://www.ajog.org/article/S0002-9378(19)30246-7/pdf

The Glasgow Structured Approach to Assessment of the Glasgow Coma Scale

The Glasgow Coma Scale provides a practical method for assessment of impairment of conscious level in response to defined stimuli.

https://www.glasgowcomascale.org/

Queensland Clinical Guideline: Intrapartum fetal surveillance

https://www.health.qld.gov.au/__data/assets/pdf_file/0012/140043/g-ifs.pdf

Readings for Scenario 1 - Standard

Queensland Clinical Guideline: Preterm labour and birth

https://www.health.qld.gov.au/__data/assets/pdf_file/0019/140149/g-ptl.pdf

Preterm prelabour rupture of membranes (PPROM)

https://www.health.qld.gov.au/__data/assets/pdf_file/0035/736964/g-pprom.pdf

Emergency Management

Sepsis SOMANZ Presentation

https://bit.ly/3cjOBpt

SOMANZ

SOCIETY OF OBSTETRIC MEDICINE OF AUSTRALIA AND NEW ZEALAND

SOMANZ Guidelines for the investigation and management of sepsis in pregnancy 2017

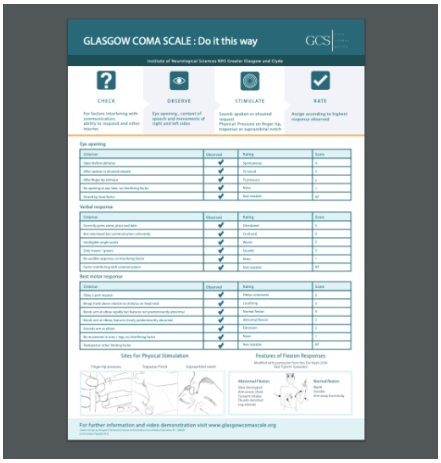
Bowyer L, Robinson H, Barrett H, Crozier T, Giles M, Idel I, Lowe S, Lust K, Marnoch C, Morton M, Said J, Wong M, Makris A

http://onlinelibrary.wiley.com/doi/10.1111/ajo.12646/pdf

Scan me on your phone

Glasgow Coma Scale

https://www.glasgowcomascale.org/downloads/GCS-Assessment-Aid-English.pdf?v=3



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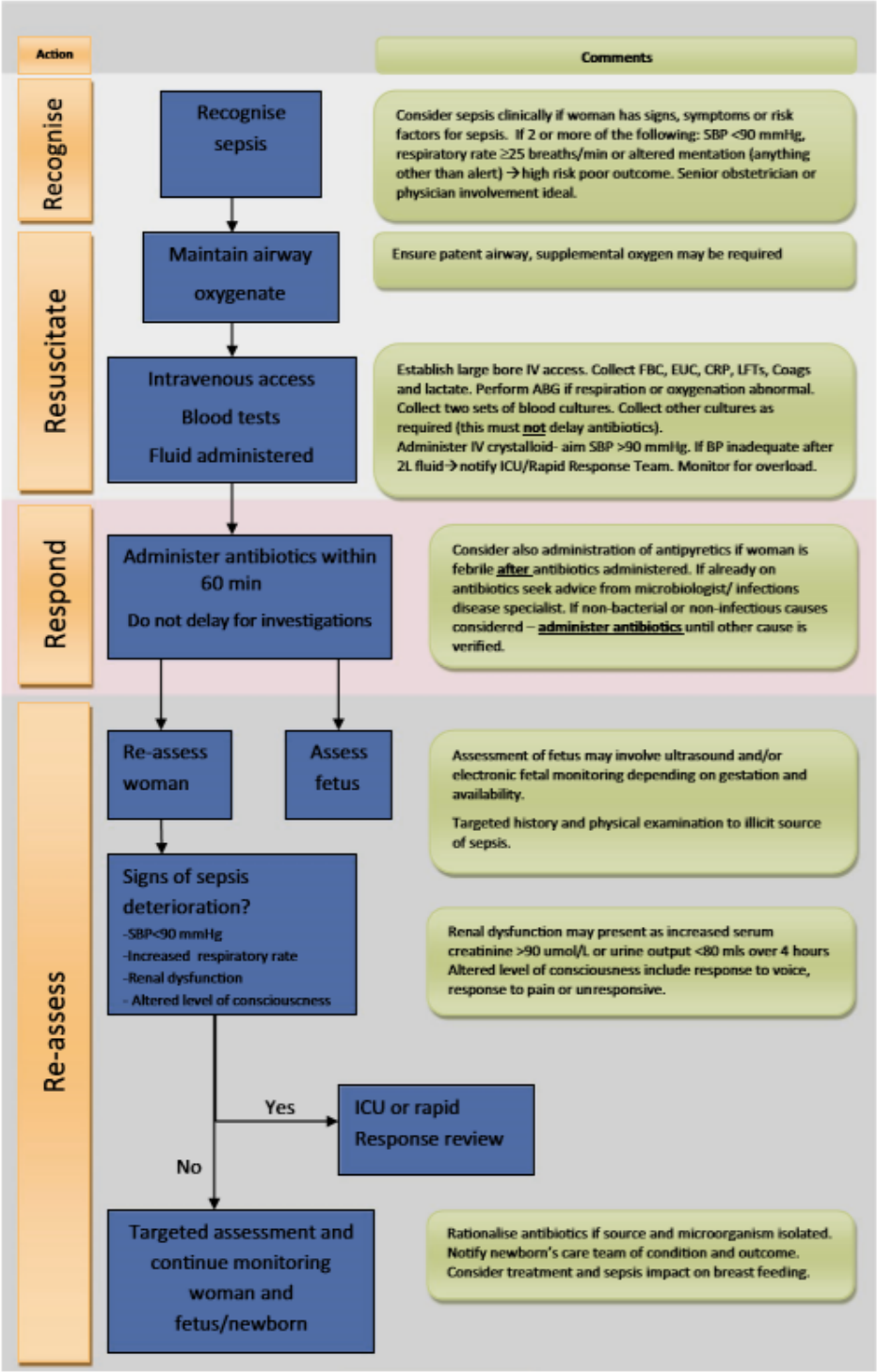
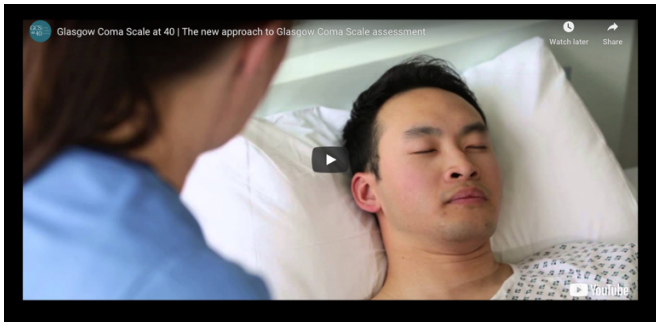
SOMANZ Flowchart for assessment and management of sepsis in pregnancy



Specific Management

Glasgow Coma scale video	
https://www.glasgowcomascale.org/#video	
	Scan me on your phone

Fetal blood sampling results

Interpretation	pH (units)	Lactate (mmol/L)
Normal	≥ 7.25	≥ 4.2
Borderline: Repeat in 30 minutes	≥ 7.21 – 7.24	4.2 – 4.8
Abnormal: Birth expediated	≥ 7.20	> 4.8

CTG Classification

	Classification		Baseline	Variability	Declaration	Acceleration	Action/ Escalation
Normal	Low Probability Fetal compromise	GREEN	110 -160 bpm	6 -25 bpm	Nil	15 bpm for 15 seconds	Nil
Abnormal	Unlikely Fetal compromise	BLUE	100 – 109 bpm		Early or Late	Absent	Continue CTG MO/TL review
	Maybe Fetal compromise	YELLOW	›160 bpm or Rising	3 – 5 bpm for ›30 minutes	Complicated variable or Late		Correct reversible causes MO/TL review
		RED	≥ 2 YELLOW features = RED				Persistent YELLOW = RED
	Likely Fetal compromise	RED	‹ 100 for › 5 minutes	‹ 3 bpm for › 30 minutes or Sinusoidal			FBS or Expedite Birth Urgent MO review

Acronyms and abbreviations

Term	Definition
AN	Antenatal
bpm	Beats per minute
C/S	Caesarean section
CAT 1	Category 1
CSDS	Clinical Skills Development Service
CTG	Cardiotocograph
ECG	Electrocardiograph
FBC	Full blood count
FBS	Fetal blood sample
GAS	Group A beta haemolytic streptococcal
GCS	Glasgow coma scale
GP	General Practitioner
Hb	Haemoglobin
ICU	Intensive care unit
ieMR	Integrated electronic medical records
IVC	Intra venous cannula
Mec	Meconium
MO	Medical Officer
NAD	Nothing abnormal detected
Obs	Observations
omqSOFA	Obstetrically modified quick sepsis related organ failure assessment
OT	Operating theatre
PHR	Pregnancy Health Record

PP	Presenting part
PV	Per vagina
QMEWT	Queensland Maternity Early Warning Tool
RCOG	Royal College of Obstetricians & Gynaecologists
ROL	Right occipital lateral
SMFM	Society for Maternal – Fetal Medicine
SOMANZ	Society of Obstetric Medicine of Australia & New Zealand
SVD	Spontaneous vaginal delivery
TL	Team leader
VE	Vaginal examination

References

This resource kit has been inspired by the Optimus BONUS project of the Children's Health Queensland's Simulation Training Optimising Resuscitation for Kids (STORK) service. To know more information about STORK and their Optimus project, visit their website.

1. Children's Health Queensland. 2020. Queensland Paediatric Emergency Care Education | CHQ. [online] Available at: ‹https://www.childrens.health.qld.gov.au/research/education/queensland-paediatric-emergency-care-education/› [Accessed 24 July 2020].

2. SOMANZ Guideline for the Management of Sepsis in Pregnancy 2017

3. Royal College of Obstetricians and Gynaecologists. Bacterial Sepsis in Pregnancy. Green-top Guideline No. 64a. RCOG. 2012. Available from: www.rcog.org.uk/globalassets/documents/ guidelines/gtg_64a.pdf

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The survey should take no more than 5 minutes to complete. Scan the QR code with your device or visit this link

https://www.surveymonkey.com/r/Z8Q398N

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