



The APT-Sepsis Programme



Module 3b: The FAST-M Treatment Bundle



Version 1.0 | 15 SEPT 2023



Module 3b outline

By the end of this module, you should be able to:

1

Recall why urgent treatment of sepsis is essential once suspected

2

Know when to start the FAST-M Treatment Bundle

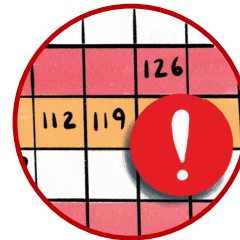
3

List the components of the FAST-M Treatment Bundle

4

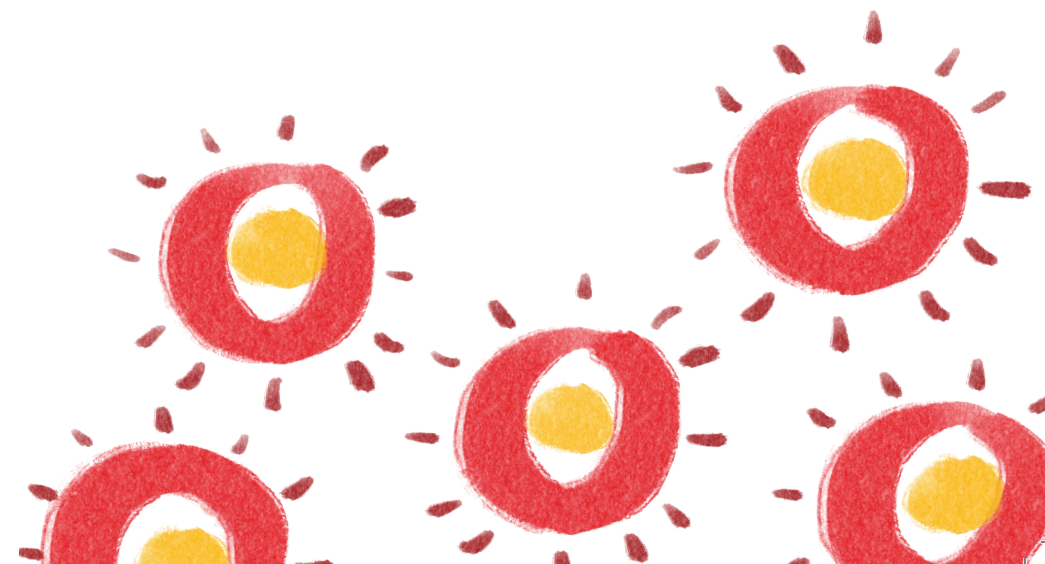
Understand how to deliver each of the the 5 components of the FAST-M Treatment Bundle





MODULE 3B: PART ONE

The importance of treating sepsis urgently



Sepsis: a medical EMERGENCY

*Can you remember why
it is so important to treat
suspected sepsis urgently?
How quickly should you
deliver treatment?*



The importance of treating sepsis urgently



Sepsis: a medical EMERGENCY

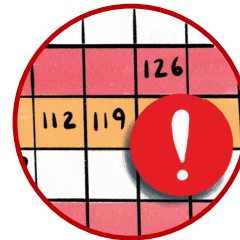
Sepsis results from an overwhelming reaction of the body to infection and is deadly

The chance of dying from sepsis increases the longer you go without treatment: urgent action saves lives

Sepsis is therefore a medical emergency: if you suspected sepsis, action needs to happen as soon as possible

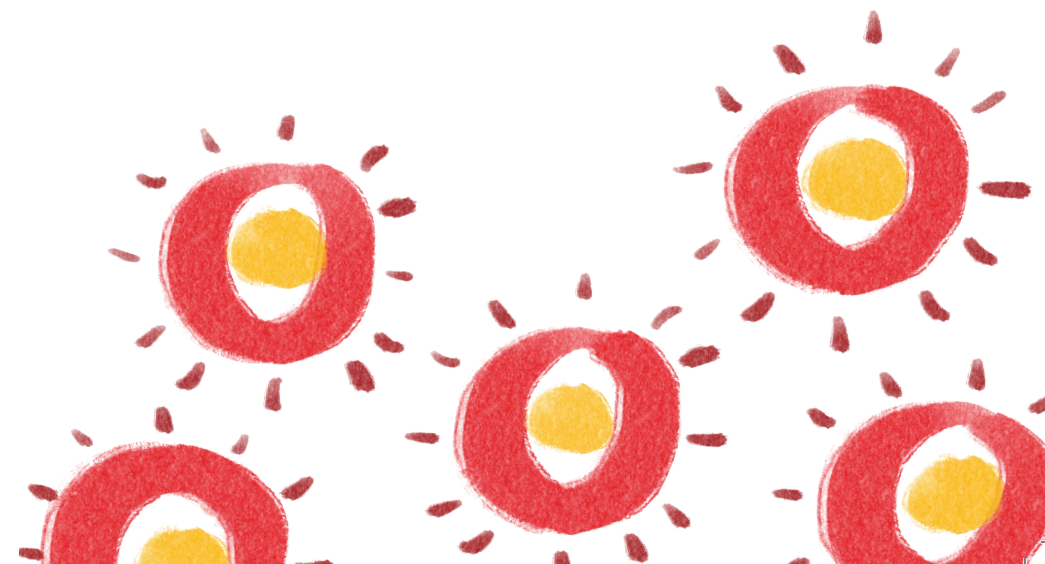
The MEOWS Chart and FAST-M Decision Tool are designed to detect and diagnose suspected sepsis: whenever sepsis is suspected, start the FAST-M Treatment Bundle





MODULE 3B: PART TWO

The FAST-M Treatment Bundle



The FAST-M Treatment Bundle is...

- A 'bundle' of care is a collection of evidence-based clinical practices that work together to support care in a certain clinical setting
- The FAST-M Treatment Bundle is a collection of treatments designed to improve care in sepsis, reduce morbidity and save lives
- The components of the FAST-M Treatment Bundle were established by an international group of experts: it contains the five key actions thought to be vital for sepsis management



The FAST-M Treatment Bundle is...

FAST-M is an acronym for the treatments included in the FAST-M Treatment Bundle:

- F** **FLUIDS**
- A** **ANTIBIOTICS**
- S** **SOURCE** control
- T** **TRANSFER** if required
- M** **MONITORING**

FAST-M TREATMENT BUNDLE

F **FLUIDS** (caution in pre-eclampsia, severe anaemia and heart failure)
 Date: ____ Time started: ____ Initials: ____
 Give 500 ml crystalloid immediately. Repeat 500 ml boluses to a maximum of 30 ml/kg if hypotension persists.

A **ANTIBIOTICS**
 Date: ____ Time started: ____ Initials: ____
 Give antibiotics. See below for guidance.

S **SOURCE** control (Identify and treat the source of infection)
 Date: ____ Time considered: ____ Initials: ____
 Identify and control the source. See below for guidance.

T **TRANSFER** if required (to a different hospital or location that can provide a higher level of care)
 Date & time considered: ____ Initials: ____
 Date & time requested: ____ Initials: ____
 Date & time patient left facility: ____
 Destination: ____
 Reason for any delay: ____
 Transport required: ☐ YES ☐ NO ☐ N/A

M **MONITORING** (start MEOWS Chart if not already started and repeat observations every 30 minutes, until otherwise decided by the nurse / midwife / clinician performing the review)
 Date and time monitoring commenced: ____
 Maternal / fetal monitoring should include:
 • Respiratory rate
 • Temperature
 • Heart rate
 • Blood pressure
 • Urine output
 • Mental state
 • Fetal heart rate
 Neonatal monitoring and review commenced: ☐ YES ☐ NO ☐ N/A

ANTIBIOTIC RECOMMENDATION
 Consider:
 Immediate treatment for maternal sepsis of unknown origin:
 • Ceftriaxone 2g IV OD plus metronidazole 500mg IV TDS
 • Add a one-off dose of gentamicin 5mg/kg IV if the patient is haemodynamically unstable
 If the above regimen is not available or the patient is not improving after 48 hours:
 • Seek urgent advice from a senior decision-maker (nurse / midwife / clinician)
 If maternal infection source is known, or as soon as it is identified:
 • Adapt the antibiotic choice to cover that source specifically, according to local guidelines

IDENTIFY THE SOURCE
 Consider:
 • Clinical history
 • Clinical examination
 • Blood tests (if available) (FBC, U&Es, LFTs, CRP, clotting)
 • Blood cultures
 • WBC and malaria tests
 • Urine sample
 • Swabs (wound, vagina, throat)
 • Sputum sample
 • Imaging (abdominal / chest)
 • Lumbar puncture

REMOVE / TREAT THE SOURCE
 Consider:
 • Malaria treatment
 • Delivery of the baby / babies
 • Removal of retained products of conception
 • Debridement of wound / drainage of collection
 • Removal of infected cannula / line
 • Hysterectomy
 • Targeted antibiotics once source known

SUSPECT SEPSIS, START FAST-M



Fluids

F	FLUIDS (caution in pre-eclampsia, severe anaemia and heart failure)					Give 500 ml crystalloid immediately. Repeat 500 ml boluses to a maximum of 30 ml/kg if hypotension persists	
	Date	___ / ___ / ___	Time started	___ : ___	Initials		
	Details / reason not completed						

Fluids are life-saving in sepsis

The body's reaction to infection in sepsis leads to many of the blood vessels dilating and a drop in blood pressure

Reduced blood pressure can result in 'shock': a condition where the body's tissue does not receive enough blood (perfusion)

Fluids are supportive: they do not cure sepsis but can significantly improve outcomes



Fluids

F	FLUIDS (caution in pre-eclampsia, severe anaemia and heart failure)				
	Date	___ / ___ / ___	Time started	___ : ___	Initials
	Details / reason not completed				Give 500 ml crystalloid immediately. Repeat 500 ml boluses to a maximum of 30 ml/kg if hypotension persists

Improving perfusion throughout the body with fluids has many benefits: it means more oxygen delivery to the brain, less strain on the heart and less damage to the kidneys to name a few

When sepsis is suspected, 500ml of a crystalloid fluid (for example, 0.9% sodium chloride) should be given as a bolus and the blood pressure monitored immediately after

500ml boluses should be repeated if hypotension persists



Fluids

F	FLUIDS (caution in pre-eclampsia, severe anaemia and heart failure)					Give 500 ml crystalloid immediately. Repeat 500 ml boluses to a maximum of 30 ml/kg if hypotension persists	
	Date	___ / ___ / ___	Time started	___ : ___	Initials		
	Details / reason not completed						

If 30ml/kg total has been given and there is still hypotension, it might indicate that fluids are not enough and the woman might need other medications to maintain their blood pressure

These supportive medications (vasopressors and / or inotropes) can often only be given at healthcare facilities that offer a high-level of care: transfer might need to be considered

Appropriate fluid management can help to improve the blood pressure, heart rate, respiratory rate and the woman's mental state through improved tissue perfusion



Fluids

F	FLUIDS (caution in pre-eclampsia, severe anaemia and heart failure)					Give 500 ml crystalloid immediately. Repeat 500 ml boluses to a maximum of 30 ml/kg if hypotension persists	
	Date	___ / ___ / ___	Time started	___ : ___	Initials		
	Details / reason not completed						

Giving lots of fluid fast can be dangerous in some circumstances so caution should be taken:

In pre-eclampsia

Too much fluid can be dangerous as it can cause pulmonary oedema

In severe anaemia

Fluid can dilute the blood even further: whilst fluid can maintain the blood pressure it must be recognised that an urgent blood transfusion is also needed to correct the woman's anaemia

In heart failure

Too much fluid can lead to pulmonary oedema: maintaining blood pressure is essential but be cautious about giving multiple boluses of fluid



Antibiotics

A	ANTIBIOTICS					Give antibiotics. See below for guidance	
	Date	___ / ___ / ___	Time started	___ : ___	Initials		
	Details / reason not completed						

Whilst fluids are essential for support in sepsis, antibiotics are the key treatment

Urgent administration of antibiotics is essential in suspected sepsis: the risk of death increases the longer treatment is delayed

When first diagnosed with sepsis, it is sensible to start treatment for sepsis of unknown source, whilst you continue your assessment to establish the source: the treatment of sepsis of unknown source is deliberately broad to cover most causes



Antibiotics

A	ANTIBIOTICS					Give antibiotics. See below for guidance	
	Date	___ / ___ / ___	Time started	___ : ___	Initials		
	Details / reason not completed						

ANTIBIOTIC RECOMMENDATION

Consider:

Immediate treatment for maternal sepsis of unknown origin:

- Ceftriaxone 2g IV OD plus metronidazole 500mg IV TDS
- Add a one-off dose of gentamicin 5mg/kg IV if the patient is haemodynamically unstable

If the above regimen is not available or the patient is not improving after 48 hours:

- Seek urgent advice from a senior decision-maker (nurse / midwife / clinician)

If maternal infection source is known, or as soon as it is identified:

- Adapt the antibiotic choice to cover that source specifically, according to local guidelines

Treatment for sepsis of unknown source is recommend as:

- Ceftriaxone 2g IV once daily
AND
- Metronidazole 500mg IV TDS (or 400mg PO TDS)
AND
- Gentamicin 5mg/kg IV as a one-off dose if the patient has a high heart rate or low blood pressure (haemodynamically unstable)



Antibiotics

A	ANTIBIOTICS					Give antibiotics. See below for guidance	
	Date	___ / ___ / ___	Time started	___ : ___	Initials		
	Details / reason not completed						

ANTIBIOTIC RECOMMENDATION
<p>Consider:</p> <p>Immediate treatment for maternal sepsis of unknown origin:</p> <ul style="list-style-type: none"> • Ceftriaxone 2g IV OD plus metronidazole 500mg IV TDS • Add a one-off dose of gentamicin 5mg/kg IV if the patient is haemodynamically unstable <p>If the above regimen is not available or the patient is not improving after 48 hours:</p> <ul style="list-style-type: none"> • Seek urgent advice from a senior decision-maker (nurse / midwife / clinician) <p>If maternal infection source is known, or as soon as it is identified:</p> <ul style="list-style-type: none"> • Adapt the antibiotic choice to cover that source specifically, according to local guidelines

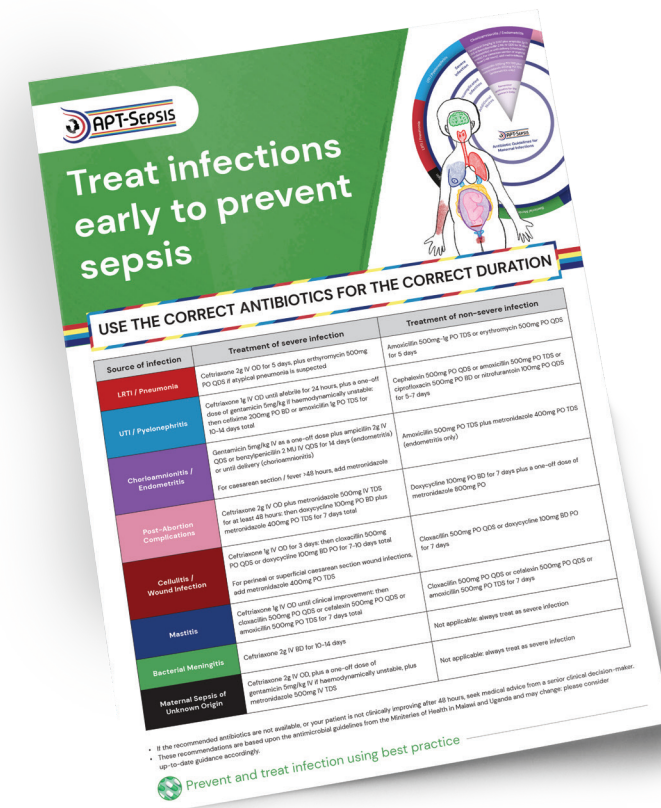
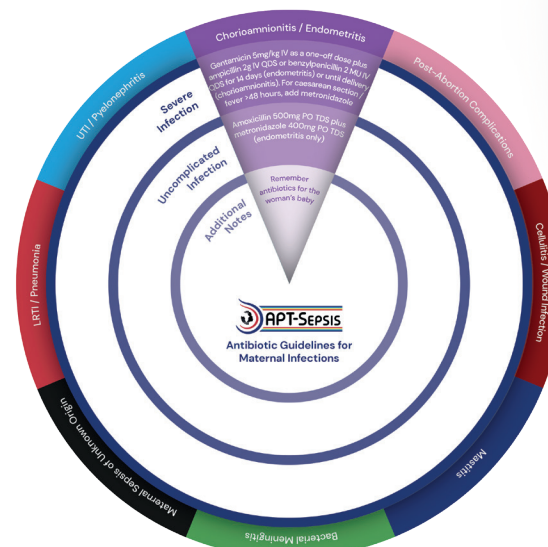
- Remember, that patients can be allergic to penicillin
- If the patient has had an allergic (anaphylactic) reaction to penicillin before, ceftriaxone should be avoided: vancomycin or clindamycin should be used with gentamicin in these circumstances, according to local availability and guidance
- If a patient does have an anaphylactic reaction, immediate treatment should be given with adrenaline IM, hydrocortisone IV and chlorphenamine IV



Antibiotics

ANTIBIOTICS						
A	Date	___ / ___ / ___	Time started	___ : ___	Initials	Give antibiotics. See below for guidance
	Details / reason not completed					

The treatment guidelines for sepsis of unknown source are included in the APT-Sepsis Gestation Wheel and a poster for reference on the ward



Source control

S	SOURCE control (identify and treat the source of infection)					Identify and control the source. See below for guidance	
	Date	___ / ___ / ___	Time considered	___ : ___	Initials		
	Details / reason not completed						

After starting urgent treatment for sepsis of unknown source, the source of the infection can be more carefully considered

Some antibiotics do not penetrate every part of the body, and therefore to not always reach the infection

Remember, the antibiotics are in the blood: they do not reach deep into abscesses and sometimes need to be at a high dose to cross into the blood-brain-barrier

In addition, some antibiotics cannot cross from the gut to the blood and vice versa: for example, colitis caused by *Clostridium difficile* cannot be treated by vancomycin IV as it does not get into the gastrointestinal tract



Source control

S	SOURCE control (identify and treat the source of infection)					Identify and control the source. See below for guidance	
	Date	___ / ___ / ___	Time considered	___ : ___	Initials		
	Details / reason not completed						

IDENTIFY THE SOURCE		
Consider:		
Clinical history • Clinical examination • Blood tests (if available) (FBC, U&Es, LFTs, CRP, clotting)	• Blood cultures • HIV and malaria tests • Urine sample • Swabs (wound, vagina, throat)	Sputum sample • Imaging (abdominal / chest) • Lumbar puncture

REMOVE / TREAT THE SOURCE	
Consider:	
• Malaria treatment • Delivery of the baby / babies • Removal of retained products of conception • Debridement of wound / drainage of collection	• Removal of infected cannula / line • Hysterectomy • Targeted antibiotics once source known

Sometimes the source needs to be removed, for example:

- Abscess drainage
- Wound debridement
- Retained products of conception removal
- Infected cannula removal
- Hysterectomy



Transfer if required

TRANSFER if required (to a different hospital or location that can provide a higher level of care)						
T	Date & time considered	___ / ___ / ___ : ___	Initials		Transport required	<input type="checkbox"/> YES <input type="checkbox"/> NO
	Date & time requested	___ / ___ / ___ : ___	Initials		<input type="checkbox"/> N/A	
	Date & time patient left facility	___ / ___ / ___ : ___	Initials		<input type="checkbox"/> N/A	
	Destination					
	Reason for any delay					

Sometimes a woman will need a higher level of care that can not be provided in your department or healthcare facility

It is important to consider early on whether she should be referred to a different ward or healthcare facility to receive the correct care, including surgery, intensive care and high dependency unit support

This assessment should not be a one-off: reassess whether woman needs transfer with every clinical review



Monitoring

M	MONITORING (start MEOWS Chart if not already started and repeat observations every 30 minutes, until otherwise decided by the nurse / midwife / clinician performing the review)		
	Date and time monitoring commenced:	___ / ___ / ___ : ____	Details / reason not completed
	Maternal / fetal monitoring should include:	<ul style="list-style-type: none"> • Respiratory rate • Temperature • Heart rate • Blood pressure • Urine output • Mental state • Fetal heart rate 	
	Neonatal monitoring and review commenced:	<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A	

Women with suspected sepsis should continue to be monitored on a regular basis, at least until they start to improve

We recommend women being management with the FAST-M Treatment Bundle are monitored at least every 30 minutes, until a clinical decision-maker (nurse, midwife, clinician) decides otherwise

Once improving, the monitoring can be spaced out appropriately until it is safe to return to normal daily monitoring (for example, every 2 hours for 8 hours, then every 8 hours for 24 hours)



The FAST-M Treatment Bundle



All of the components of the FAST-M treatment Bundle should be delivered within 1 hour of the diagnosis of suspected sepsis!

FAST-M TREATMENT BUNDLE

REMEMBER TO COMPLETE THESE ACTIONS WITHIN ONE HOUR

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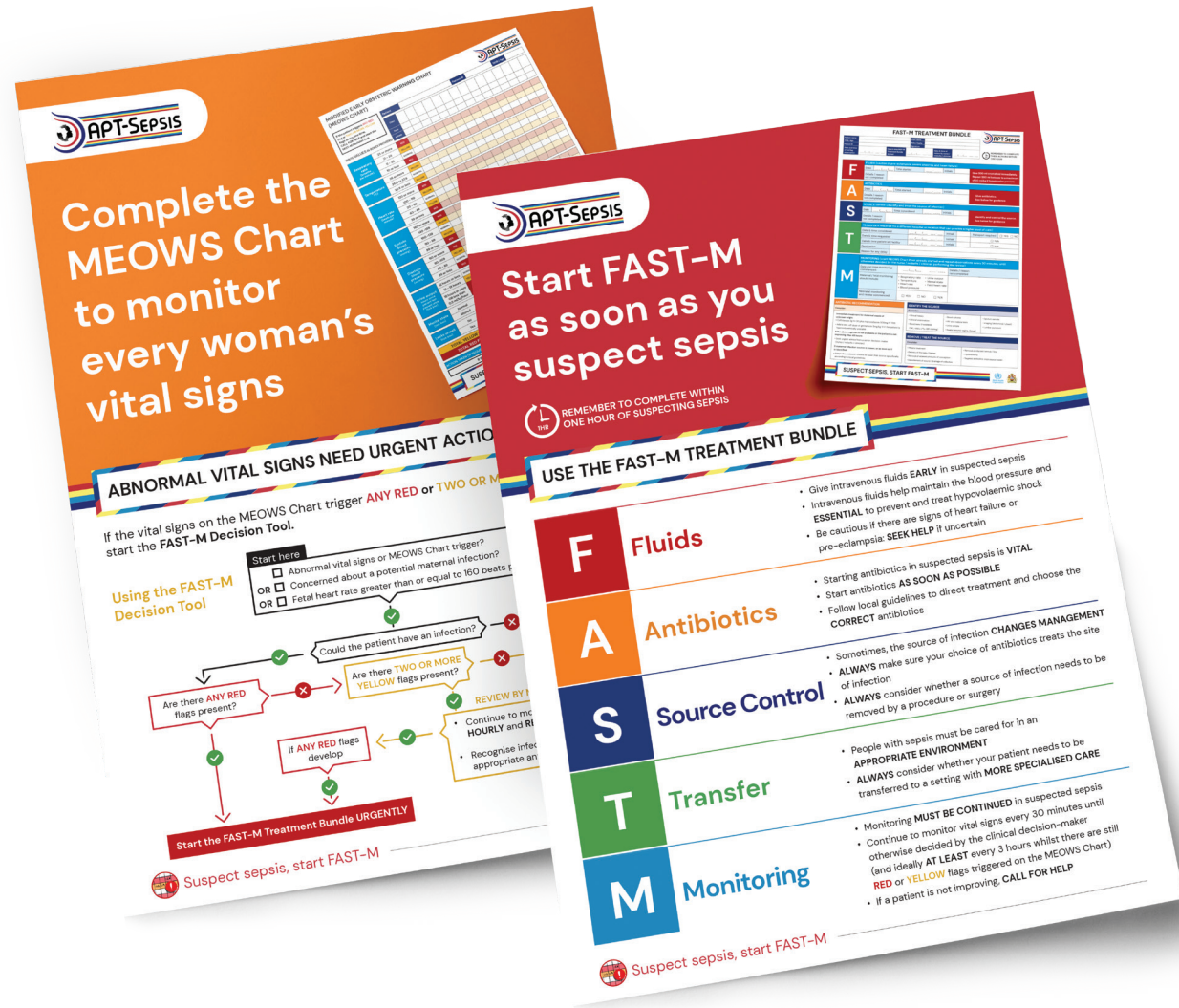
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SUSPECT SEPSIS, START FAST-M



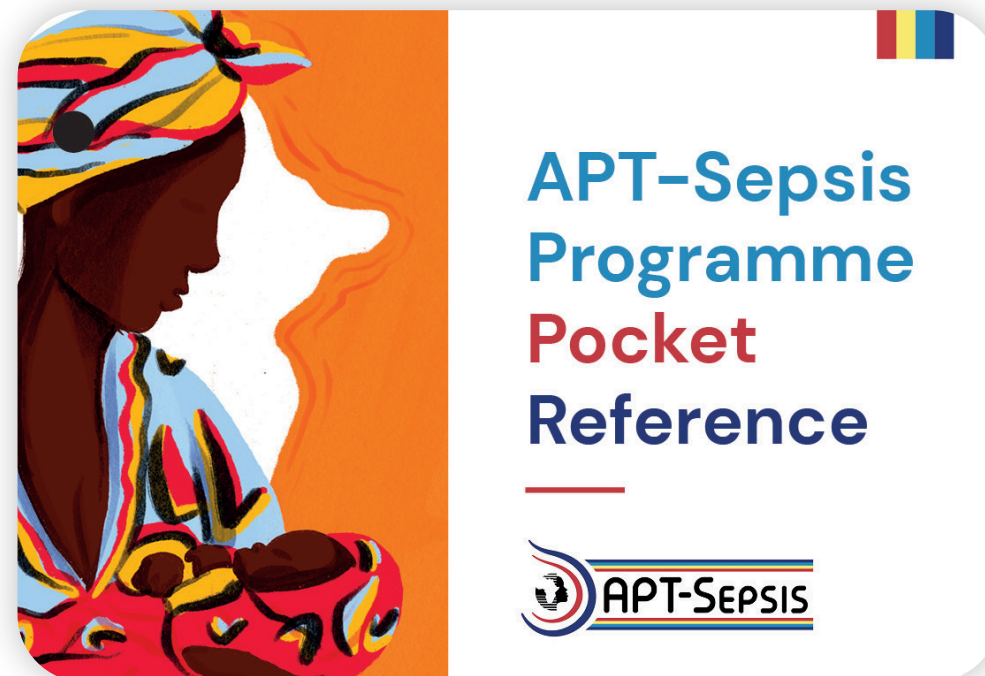
Reminders in the clinical workspace: posters

- There are two APT-Sepsis posters explaining how to use the FAST-M Decision Tool and FAST-M Treatment Bundle
- These will be displayed in clinical areas for quick reference



Reminders in the clinical workspace: the APT-Sepsis Pocket Reference

This resource contains the key learning messages needed to suspect sepsis and start FAST-M, including how to use the FAST-M Decision Tool and how to implement the five components of the FAST-M Treatment Bundle



We have now covered when to start the FAST-M Treatment Bundle, what its five components are and how to deliver them

Let's see what we remember!





Questions about APT-Sepsis?

Please contact your local central APT-Sepsis hub team if you have any questions or suggestions about the APT-Sepsis Programme

Malawi:

Regina Makuluni: rmakuluni@mlw.mw

Uganda:

Peace Okwaro: POkwaro@idi.co.ug

