Government of **Western Australia**
Department of **Health**

Adult sepsis: Statewide pathway



Sepsis is a time-critical medical emergency

- Sepsis is the body's extreme and life-threatening response to an infection, which can progress rapidly to tissue damage, organ failure, and death.
- Sepsis is a complex condition which can evolve rapidly.

Anyone can get an infection, and almost any infection can lead to sepsis.

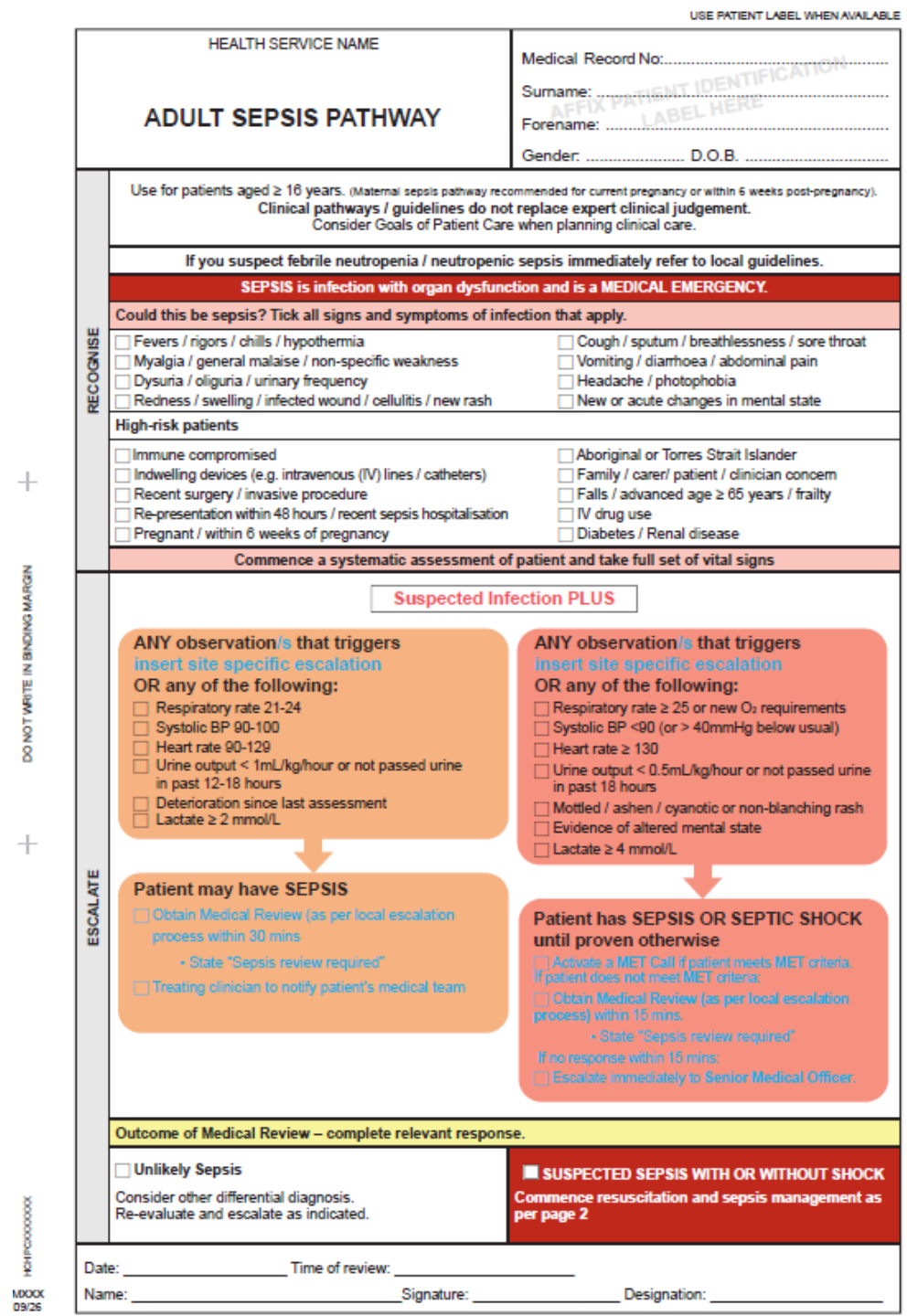
Adult sepsis pathway

The pathway does not replace clinical judgement

- The pathway supports the clinician to identify sepsis risk factors, signs and symptoms, escalate to a senior clinician and commence treatment rapidly.
- The adult pathway can be used for patients ≥ 16 years.
- The maternal pathway is preferred for use in pregnancy and within 6 weeks after pregnancy.
- Any clinical staff member can commence the pathway.
- You do not need to wait for medical approval to start the pathway.

Adult sepsis pathway

health.wa.gov.au



USE PATIENT LABEL WHEN AVAILABLE

HEALTH SERVICE NAME

ADULT SEPSIS PATHWAY

Medical Record No:
Surname:
Forename:
Gender: D.O.B.

AFFIX PATIENT IDENTIFICATION LABEL HERE

RECOGNISE

Use for patients aged ≥ 16 years. (Maternal sepsis pathway recommended for current pregnancy or within 6 weeks post-pregnancy).
Clinical pathways / guidelines do not replace expert clinical judgement.
Consider Goals of Patient Care when planning clinical care.

If you suspect febrile neutropenia / neutropenic sepsis immediately refer to local guidelines.

SEPSIS is infection with organ dysfunction and is a MEDICAL EMERGENCY.

Could this be sepsis? Tick all signs and symptoms of infection that apply.

- ☐ Fevers / rigors / chills / hypothermia
- ☐ Myalgia / general malaise / non-specific weakness
- ☐ Dysuria / oliguria / urinary frequency
- ☐ Redness / swelling / infected wound / cellulitis / new rash
- ☐ Cough / sputum / breathlessness / sore throat
- ☐ Vomiting / diarrhoea / abdominal pain
- ☐ Headache / photophobia
- ☐ New or acute changes in mental state

High-risk patients

- ☐ Immune compromised
- ☐ Indwelling devices (e.g. intravenous (IV) lines / catheters)
- ☐ Recent surgery / invasive procedure
- ☐ Re-presentation within 48 hours / recent sepsis hospitalisation
- ☐ Pregnant / within 6 weeks of pregnancy
- ☐ Aboriginal or Torres Strait Islander
- ☐ Family / carer/ patient / clinician concern
- ☐ Falls / advanced age ≥ 65 years / frailty
- ☐ IV drug use
- ☐ Diabetes / Renal disease

Commence a systematic assessment of patient and take full set of vital signs

ESCALATE

Suspected Infection PLUS

ANY observation/s that triggers
insert site specific escalation
OR any of the following:

- ☐ Respiratory rate 21-24
- ☐ Systolic BP 90-100
- ☐ Heart rate 90-129
- ☐ Urine output < 1mL/kg/hour or not passed urine in past 12-18 hours
- ☐ Deterioration since last assessment
- ☐ Lactate ≥ 2 mmol/L

Patient may have SEPSIS

- ☐ Obtain Medical Review (as per local escalation process within 30 mins
  - State "Sepsis review required"
- ☐ Treating clinician to notify patient's medical team

ANY observation/s that triggers
insert site specific escalation
OR any of the following:

- ☐ Respiratory rate ≥ 25 or new O_2 requirements
- ☐ Systolic BP <90 (or > 40mmHg below usual)
- ☐ Heart rate ≥ 130
- ☐ Urine output < 0.5mL/kg/hour or not passed urine in past 18 hours
- ☐ Mottled / ashen / cyanotic or non-blanching rash
- ☐ Evidence of altered mental state
- ☐ Lactate ≥ 4 mmol/L

Patient has SEPSIS OR SEPTIC SHOCK until proven otherwise

- ☐ Activate a MET Call if patient meets MET criteria.
  If patient does not meet MET criteria:
- ☐ Obtain Medical Review (as per local escalation process) within 15 mins.
  - State "Sepsis review required"

  If no response within 15 mins:
- ☐ Escalate immediately to Senior Medical Officer.

Outcome of Medical Review – complete relevant response.

- ☐ **Unlikely Sepsis**
  Consider other differential diagnosis.
  Re-evaluate and escalate as indicated.
- ☐ **SUSPECTED SEPSIS WITH OR WITHOUT SHOCK**
  Commence resuscitation and sepsis management as per page 2

Date: _____ Time of review: _____
Name: _____ Signature: _____ Designation: _____

DO NOT WRITE IN BINDING MARGIN

HCHPCXXXXXXX
MXXX
09/26

MRXXX ADULT SEPSIS PATHWAY

USE PATIENT LABEL WHEN AVAILABLE

HEALTH SERVICE NAME

ADULT SEPSIS PATHWAY

Medical Record No:
Surname:
Forename:
Gender: D.O.B.

AFFIX PATIENT IDENTIFICATION LABEL HERE

COMPLETE ACTIONS 1-4 WITHIN ONE HOUR

RESUSCITATE

1. Senior Medical Review

- Oxygen if required: aim SpO2 ≥ 95% (88-92% for patients at risk of hypercapnia)
- Consider infection source

☐ Full set of observations and urine output — 5 min

2. Vascular access and investigations

- Do not delay antimicrobials or fluids if pathology collection is difficult
- Obtain prompt IV or Intraosseous access
- Collect 2 sets of blood cultures (single site collection preferred) Add an additional (third) set via any central line in situ
- Collect microbiological samples based on possible infection source
- Consider relevant imaging to identify infection source

☐ Lactate. Result: _____
☐ Blood cultures x 2 sets
☐ FBC, UEC, LFTs, BGL, CRP
☐ Add coagulation screen for septic shock
☐ Other cultures / investigations — 30 min

3. Commence Antibiotics

- Prescribe according to local guidelines or Australian Therapeutic Guidelines
- Consider allergy status. Consider any microbiology results
- Consider consult with ID physician or microbiologist if multidrug resistant or unusual organism suspected

☐ Antimicrobial administered
Time: _____
Antibiotic guidance QR code
Local guideline / Australian Therapeutic Guidelines — 60 min

4. Fluid resuscitation for septic shock / hypoperfusion

IV fluid challenge

- Isotonic crystalloid bolus 500-1000mL
- Assess perfusion response post bolus: Capillary Refill Time, conscious state, respirations, pulse, BP
- Seek early expert advice on fluid volume & vasopressor management for renal / heart failure / cardiology patients

Haemodynamic support

- Repeat IV bolus(es) of 250-500mL based on perfusion assessment/s (max 30mL/kg)
- Seek expert help (eg: critical care)
- Commence vasopressor infusion as per local guidelines if inadequate perfusion persists despite fluid resuscitation
- Initial Mean Arterial Pressure (MAP) target ≥ 65mmHg
- Monitor fluid balance and consider urinary catheter

☐ IV Fluid bolus given
☐ IV Fluid not indicated
☐ Vasopressors commenced if required

REASSESS & REFER

5. Reassess

- **Source control is URGENT:** Consider infection source e.g. line / catheter / surgical / wound
- Review fluid balance / haemodynamic status / observations

☐ Repeat lactate (within 2 hours)
☐ Sepsis diagnosis and management plan documented
☐ Plan discussed with family / carers

6. Refer

- Consider critical care, retrieval, or surgical services
- Comprehensive clinical handover (iSoBAR)

☐ Referral arranged
☐ Intra / inter hospital transfer arranged

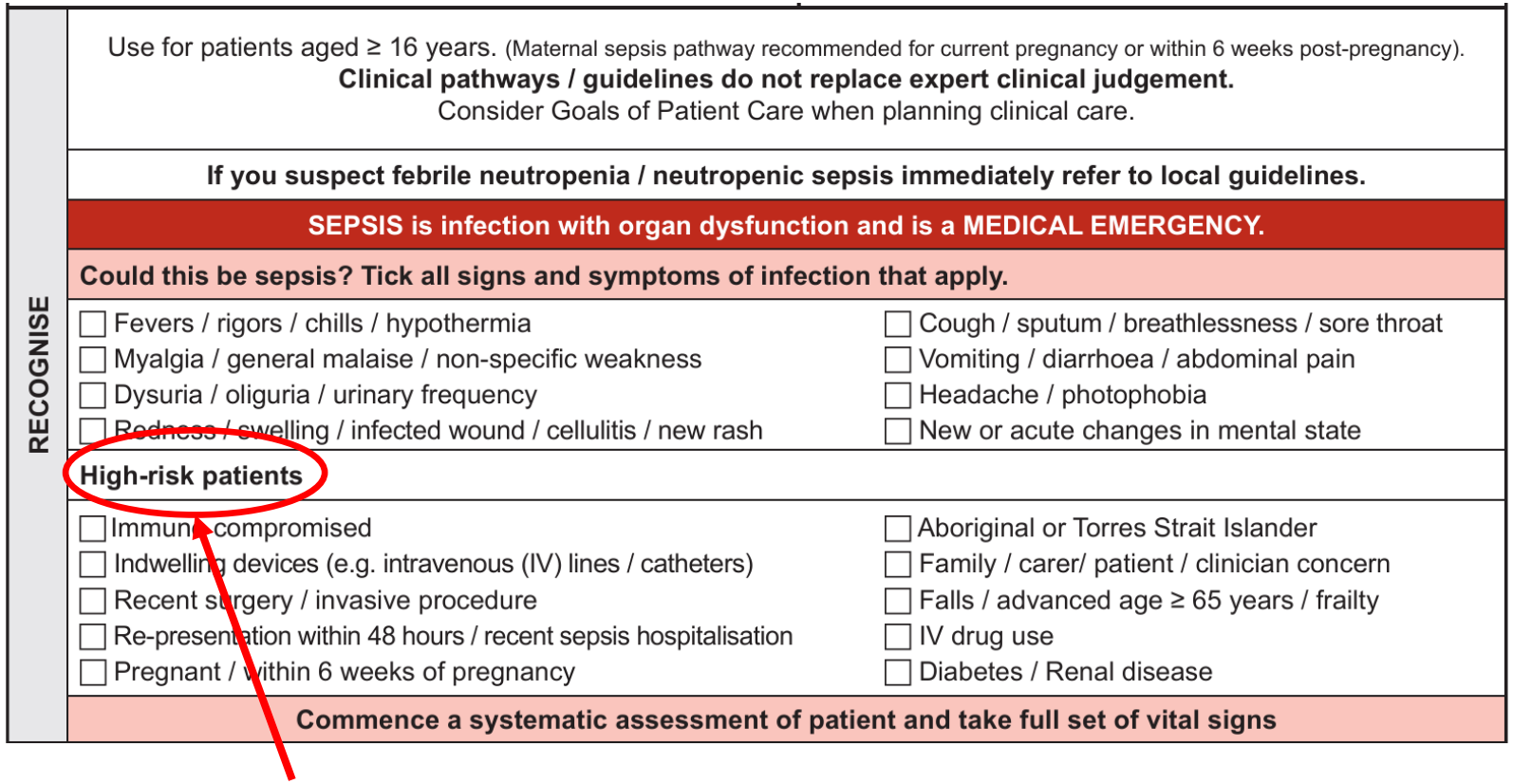
Monitor closely for deterioration and **escalate as per local process.**
Actively seek microbiology and investigation results and **review antimicrobial regimen within 24-48hrs.**

Resources:

Site sepsis guideline QR code
Local sepsis guideline

Consumer resources QR code
Consumer resources:
For patient or family / carer as appropriate

Recognise. Think: Could this be sepsis?



RECOGNISE

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High-risk patients

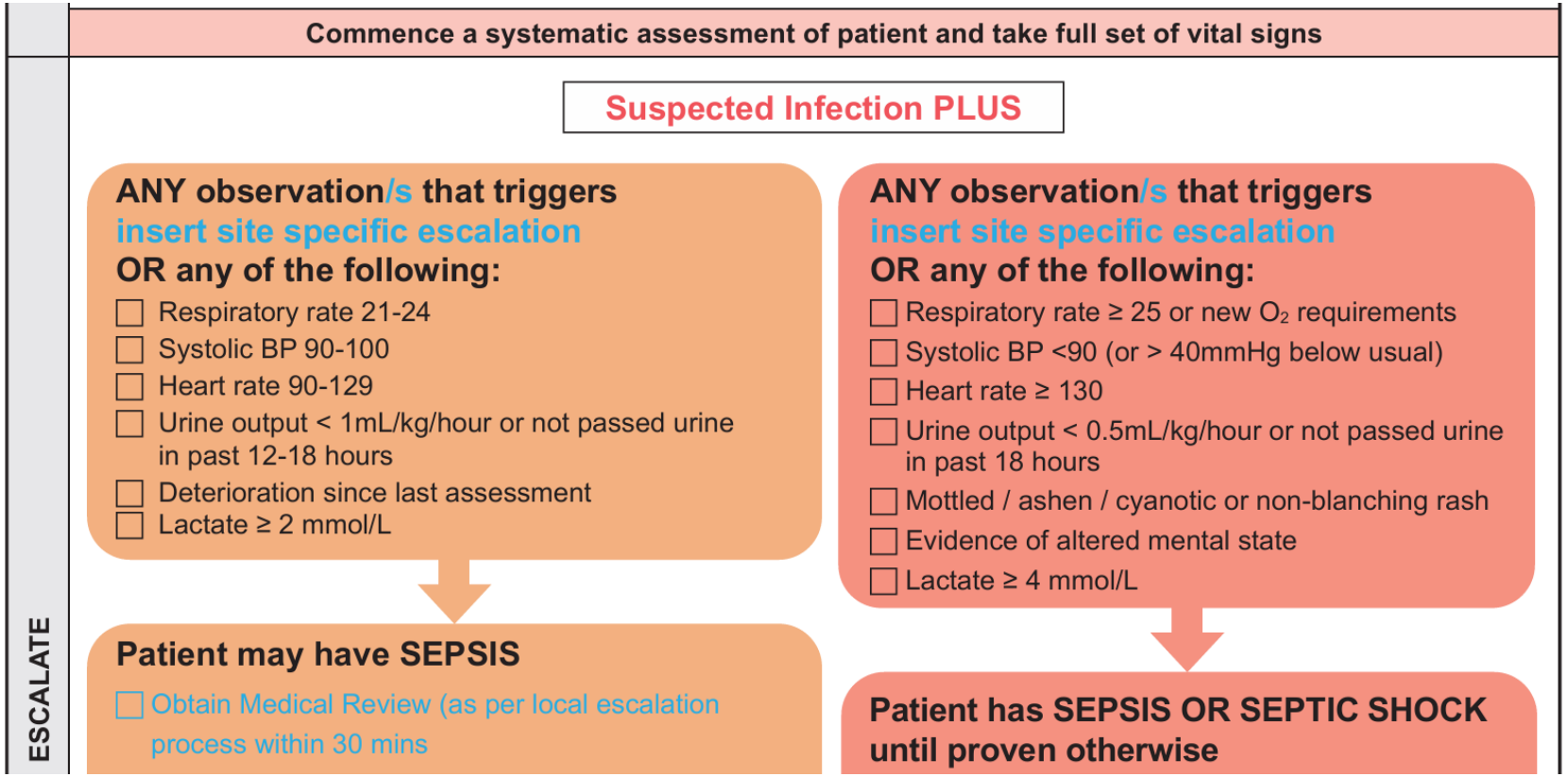
- ☐ Immunocompromised
- ☐ Indwelling devices (e.g. intravenous (IV) lines / catheters)
- ☐ Recent surgery / invasive procedure
- ☐ Re-presentation within 48 hours / recent sepsis hospitalisation
- ☐ Pregnant / within 6 weeks of pregnancy
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- ☐ Family / carer/ patient / clinician concern
- ☐ Falls / advanced age ≥ 65 years / frailty
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Commence a systematic assessment of patient and take full set of vital signs

- Anyone can develop sepsis, but some people are at higher risk.

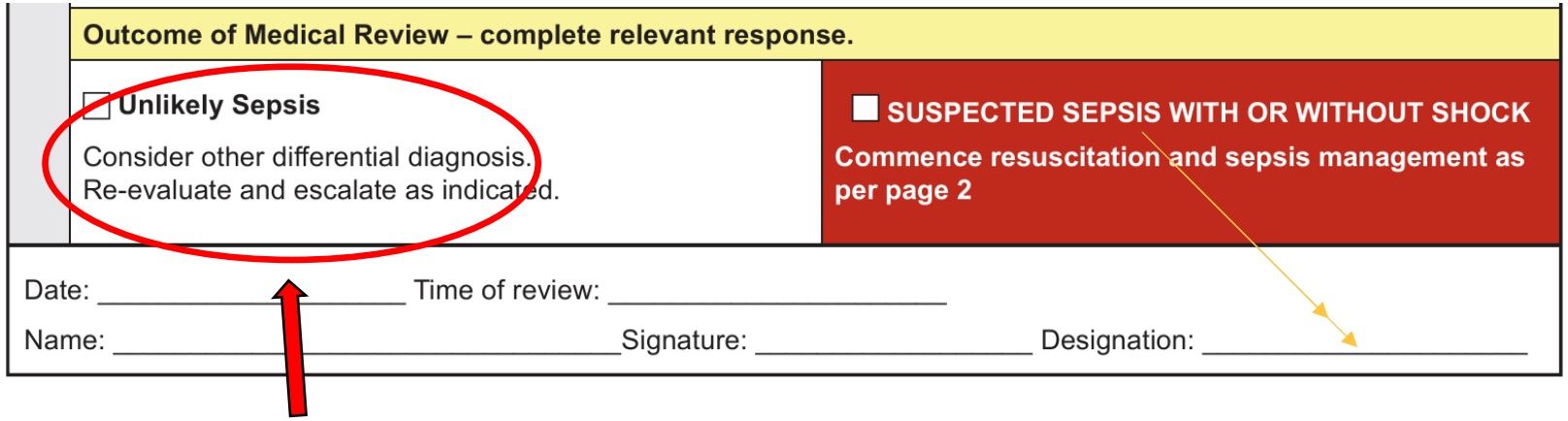
- Screening helps identify those who may have an infection.
- People can present with non-specific/non-localised symptoms, for example feeling very unwell.

Escalate



- Look for infection + organ dysfunction
- Check vital signs to help identify organ dysfunction and urgency of escalation.
- MET criteria require immediate MET escalation process.

Escalate



- A senior clinician may de-escalate care/seek alternate diagnosis and cease the pathway following review.

- **If sepsis is considered likely following review, move immediately to page 2.**
- Sepsis can progress rapidly – recognition at the bedside is critical

Resuscitate – actions 1- 4

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- Consider consult with ID physician or microbiologist if multidrug resistant or unusual organism suspected

☐ Antimicrobial administered
Time: _____ — 60 min

Antibiotic guidance QR code

Local guideline / Australian Therapeutic Guidelines

4. Fluid resuscitation for septic shock / hypoperfusion

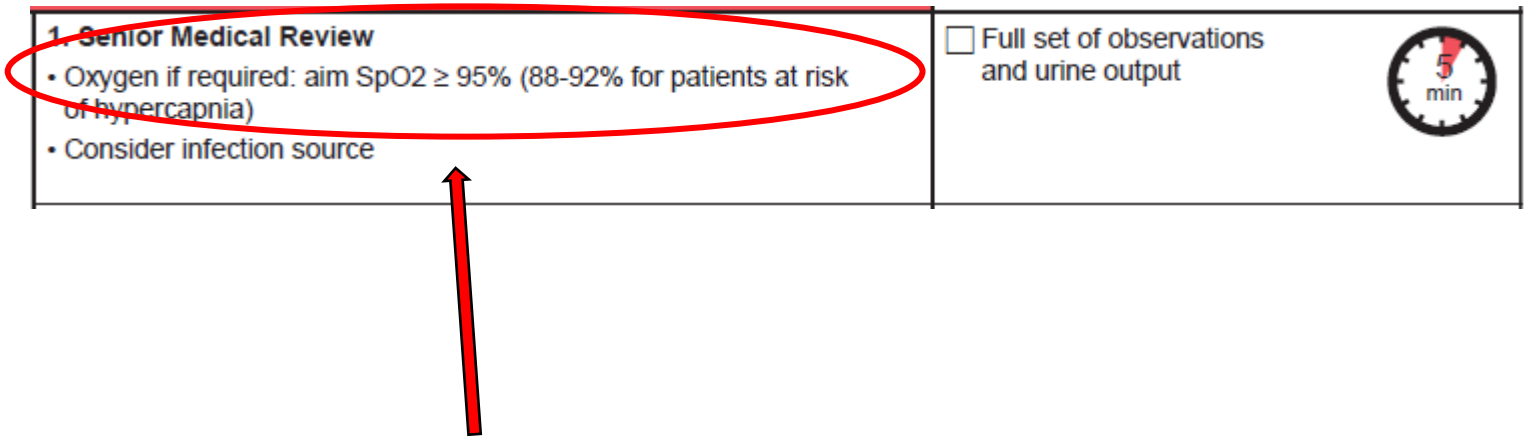
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Haemodynamic support
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- Seek expert help (eg: critical care)
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- Initial Mean Arterial Pressure (MAP) target ≥ 65mmHg
- Monitor fluid balance and consider urinary catheter

☐ IV Fluid bolus given
☐ IV Fluid not indicated
☐ Vasopressors commenced if required

- Sepsis and septic shock are medical emergencies: treatment and resuscitation should begin immediately.
- Actions 1- 4 are time-critical to improve outcomes.

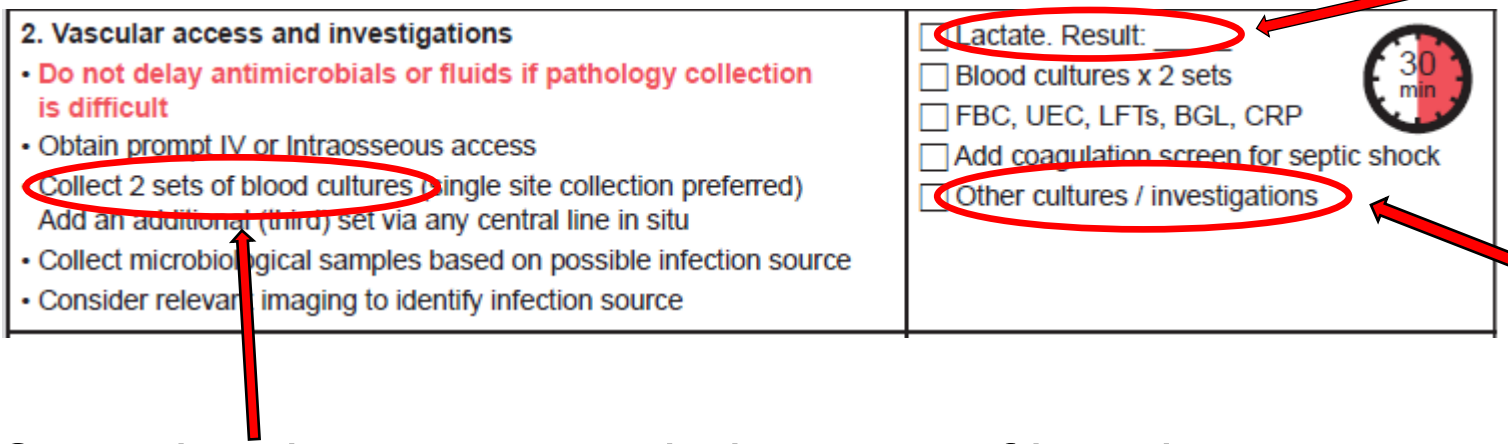
Action 1- senior medical review



- Correcting low oxygen saturation helps to reduce tissue hypoxia.
- You do not need to wait for senior medical review before applying oxygen.

- Have senior medical/nursing staff been notified?
- Experience is essential to deliver the right care and confirm diagnosis.

Action 2 – collect bloods



2. Vascular access and investigations

- Do not delay antimicrobials or fluids if pathology collection is difficult
- Obtain prompt IV or Intraosseous access
- Collect 2 sets of blood cultures (single site collection preferred) Add an additional (third) set via any central line in situ
- Collect microbiological samples based on possible infection source
- Consider relevant imaging to identify infection source

☐ Lactate. Result: ____

☐ Blood cultures x 2 sets

☐ FBC, UEC, LFTs, BGL, CRP

☐ Add coagulation screen for septic shock

☐ Other cultures / investigations

30 min

- Collecting the recommended volume of blood (10mls per bottle) is crucial for blood culture yield.
- Collection of blood cultures from a single site is preferred.
- Ideally, collect blood cultures prior to antimicrobial administration.

- High lactate is associated with worse clinical outcomes. Lactate can be quickly measured using point of care testing.
- Consider pathogen – specific rapid diagnostic testing (eg: respiratory panel) on a case-by-case basis in addition to other samples.

Action 3 - antibiotics

3. Commence Antibiotics • Prescribe according to local guidelines or Australian Therapeutic Guidelines • Consider allergy status. Consider any microbiology results • Consider consult with ID physician or microbiologist if multidrug resistant or unusual organism suspected	☐ Antimicrobial administered Time: _____ 60 min Antibiotic guidance QR code **Local guideline / Australian Therapeutic Guidelines**

Do not delay antibiotics! Urgent administration improves outcomes.

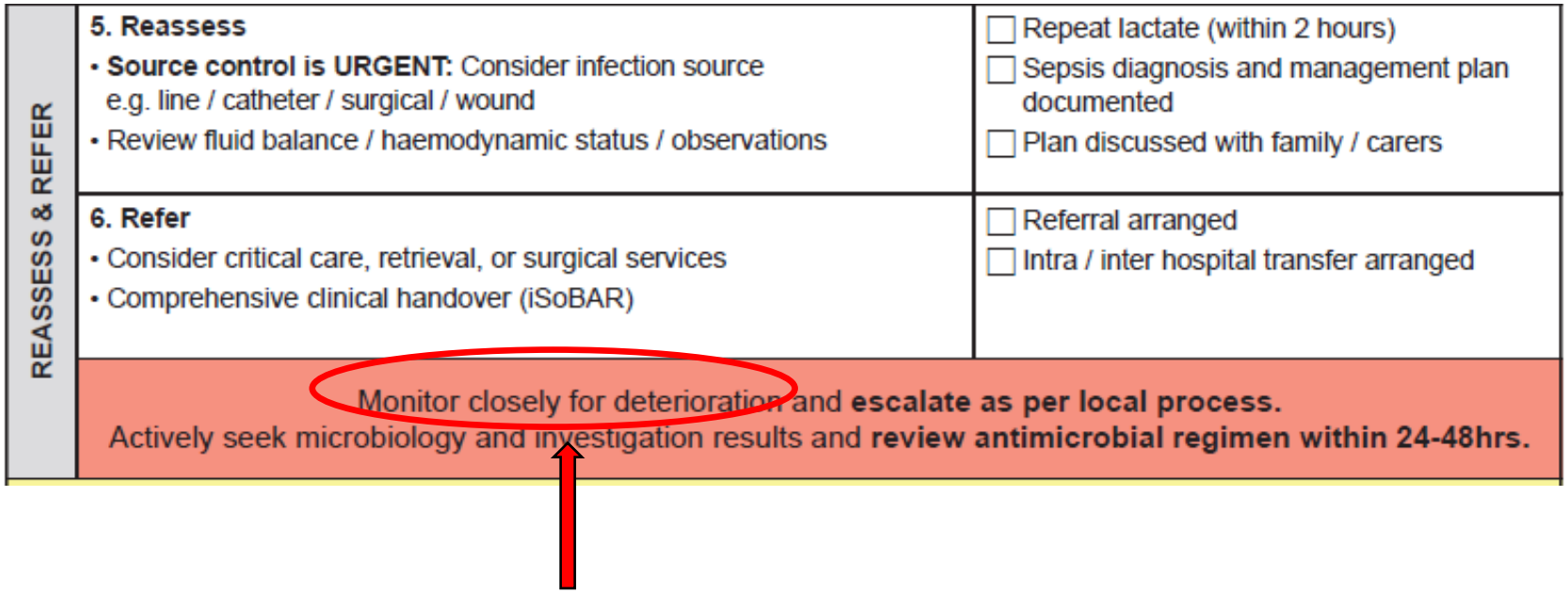
Action 4 – consider IV fluids

4. Fluid resuscitation for septic shock / hypoperfusion **IV fluid challenge** • Isotonic crystalloid bolus 500-1000mL • Assess perfusion response post bolus: Capillary Refill Time, conscious state, respirations, pulse, BP • Seek early expert advice on fluid volume & vasopressor management for renal / heart failure / cardiology patients **Haemodynamic support** • Repeat IV bolus(es) of 250-500mL based on perfusion assessment/s (max 30mL/kg) • Seek expert help (eg: critical care) • Commence vasopressor infusion as per local guidelines if inadequate perfusion persists despite fluid resuscitation • Initial Mean Arterial Pressure (MAP) target ≥ 65mmHg • Monitor fluid balance and consider urinary catheter	☐ IV Fluid bolus given ☐ IV Fluid not indicated ☐ Vasopressors commenced if required

- Clinical reassessment during and following initial fluid resuscitation is needed to reduce the risk of either under or over-resuscitation.
- Don't forget to start a fluid balance chart !

- Timely, individualised fluid resuscitation is crucial for stabilisation of sepsis induced hypoperfusion.
- Elevated lactate and clinical signs such as altered mental state, tachycardia, hypotension and CRT of 3 or more seconds are indicators of hypoperfusion.

Reassess and refer

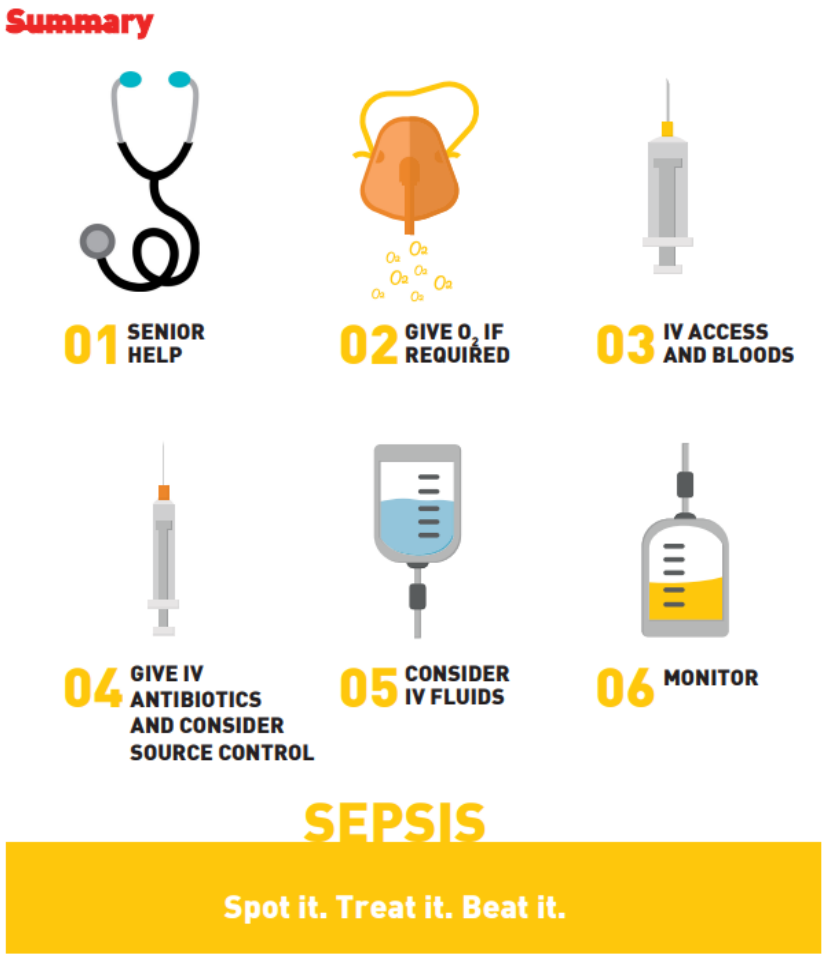


REASSESS & REFER		
	5. Reassess • **Source control is URGENT:** Consider infection source e.g. line / catheter / surgical / wound • Review fluid balance / haemodynamic status / observations	☐ Repeat lactate (within 2 hours) ☐ Sepsis diagnosis and management plan documented ☐ Plan discussed with family / carers
	6. Refer • Consider critical care, retrieval, or surgical services • Comprehensive clinical handover (iSoBAR)	☐ Referral arranged ☐ Intra / inter hospital transfer arranged
	Monitor closely for deterioration and **escalate as per local process.** Actively seek microbiology and investigation results and **review antimicrobial regimen within 24-48hrs.**	

Sepsis is a dynamic state. Frequent assessment and adjustment of treatment based on response are crucial.

- Source control is critical for effective management of sepsis.
- Examples include draining an abscess, removing an infected device, relieving anatomical blockage such as a renal stone.
- Refer early to surgical or procedural intervention team.

Early management summary



The WA pathway aligns with the Sepsis Six protocol developed by the UK Sepsis Trust.

Further information and resources

- Your hospital site can add QR code links to its endorsed sepsis guidelines and antimicrobial guidelines.

- Links to Consumer resources can also be added at the bottom of page 2.

- Additional information:
  - Sepsis resources for health professionals
  - Vasopressors or fluids for initial resuscitation in septic shock: A matter of clinical judgement - ScienceDirect