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Sepsis

Sepsis is defined as life-threatening organ dysfunction caused by a dysregulated host response to infection. It is a major cause of morbidity and mortality in children and adults. Septic shock is subset of sepsis in which profound circulatory, cellular, and metabolic abnormalities are associated with a greater risk of mortality than with sepsis alone. About three quarters of cases of sepsis derive from community-acquired infection, and not infrequently present to general practice. The GP has a critical role to identify and manage patients with sepsis.

TEACHING AND LEARNING AREAS

- Epidemiology and high-risk groups, including neonates, immunocompromised, Aboriginal and Torres Strait Islanders
- Acceptable ranges for physiological variables in children and adults
- Clinical features and assessment tools (qSOFA, NEWS2)
- Red flags in children - parental concern, re-presentation within 48 hours, clinical deterioration despite treatment, recent surgery or burns
- Resuscitation (DRSABCD) and antibiotic management
- Protocol for urgent ambulance transfer
- Care of the patient after sepsis

PRE- SESSION ACTIVITIES

- Read Life in the Fast Lane: Sepsis Definitions and Diagnosis

TEACHING TIPS AND TRAPS

- Sepsis often presents in an undifferentiated way and is therefore commonly missed in primary care
- The qSOFA is a useful tool to help predict which patients may have poorer outcomes, but lacks sensitivity as a screening test
- The NEWS2 score, recommended by the NHS, can be used to improve the detection and response to clinical deterioration in adult patients
- Hypotension is a late sign of septic shock
- Beware 'warm shock' in older children/adolescents - bounding pulses, flushed skin with rapid capillary refill
- Beware tachypnoea ± hypoxia ± grunting in infants not adequately explained by a respiratory illness
- Gut feelings are an important tool in assessing patients with possible sepsis
- Care delivered in the first hour following sepsis identification is crucial – this includes vascular access, empiric antibiotics and fluid resuscitation
- Review the emergency trolley and doctor's bag

RESOURCES

Read	• RCH Clinical Guideline Sepsis – assessment and management
Watch	• ABC Australian Story How sepsis 'silent killer' made Mick O'Dowd a quadruple amputee
Listen	• MJA podcast - Sepsis

FOLLOW UP & EXTENSION ACTIVITIES

- Registrar to undertake clinical reasoning challenge and discuss with supervisor
- Review the RCGP Sepsis Toolkit

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Clinical Reasoning Challenge

84-year-old Harry, one of your long-term patients, presents to you one afternoon feeling 'lousy'. He says that he has had a fever on and off for the past couple of days and widespread muscle aches. He had a shaking episode in bed last night. He has burning when he urinates and was incontinent of urine this morning. Harry has a past history of hypertension, diabetes and PMR, and is currently taking 6mg prednisone daily. He is a non-smoker and drinks 2-3 beers each day.

On examination, Harry looks pale and unwell. His temperature is 37.3, BP 115/60, HR 130, O2 saturation 95% on room air. You suspect sepsis from a UTI.

QUESTION 1. What other symptoms or signs are consistent with a diagnosis of sepsis? Write in note form, as many as appropriate.

QUESTION 2. What are the MOST IMPORTANT steps in your initial management? Write in note form, as many as appropriate.

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ANSWERS

QUESTION 1

What other symptoms or signs are consistent with a diagnosis of sepsis? Write in note form, as many as appropriate.

- Tachypnoea (RR> 22 breaths/minute)
- Impaired consciousness
- Poor peripheral perfusion or mottled skin
- Acute oliguria
- Deterioration in function

Additionally, a blood lactate concentration of more than 2 mmol/L is consistent with this diagnosis.

QUESTION 2

What are the MOST IMPORTANT steps in your initial management? Write in note form, as many as appropriate.

- Call for assistance/ambulance
- Assess airway and breathing and administer oxygen
- Rapid vascular access with large bore cannula
- Blood cultures
- IV fluids
- Empiric antibiotic therapy (see Therapeutic Guidelines)
- Consider vasopressor

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