

Patient Name:
Hospital number:
Date of birth:

Paediatric Sepsis/Severe Sepsis Care Pathway

This pathway must be scanned and copied then filed in the notes and filled in as treatment progresses

Date pathway commenced: ___/___/___ Time pathway commenced: ___:___ Commenced by (name/grade):

Step 1: SEPSIS confirmation by paediatrician (bleep 3111 on activation of pathway)	Step 2: Immediate actions to be commenced within 1 hour of definitive diagnosis	Step 3: SEVERE SEPSIS screening	Step 4 : Ongoing actions for all children with sepsis/severe sepsis																										
<p>Step 1a: Initial actions whilst awaiting paediatric review</p> <table border="1" data-bbox="114 528 557 863"> <tr> <td colspan="2">A) Perform PEWS score:</td> </tr> <tr> <td>PEWS 4 or more put out fast bleep or crash call and proceed to step 2</td> <td><input type="checkbox"/></td> </tr> <tr> <td>PEWS 3 or less: refer to paediatrics for urgent assessment</td> <td><input type="checkbox"/></td> </tr> <tr> <td colspan="2">B) Apply Ametop</td> </tr> <tr> <td colspan="2">C) Obtain urine sample</td> </tr> <tr> <td colspan="2">D) Check blood glucose & gas</td> </tr> </table> <p>Paediatric registrar assessment should take place within <u>60 minutes</u></p> <p>Repeat PEWS score every 30 minutes. If score deteriorates : fast bleep 3111</p>	A) Perform PEWS score:		PEWS 4 or more put out fast bleep or crash call and proceed to step 2	<input type="checkbox"/>	PEWS 3 or less: refer to paediatrics for urgent assessment	<input type="checkbox"/>	B) Apply Ametop		C) Obtain urine sample		D) Check blood glucose & gas		<p>DO THE 'SEPSIS 6'</p> <p>1) Early Senior involvement (i.e. consultant informed) <input type="checkbox"/> TIME</p> <p>2) Administer high flow oxygen to keep saturations >94% <input type="checkbox"/> TIME</p> <p>3) IV/IO access: <input type="checkbox"/> TIME a) BLOOD CULTURES <i>Ideally before giving antibiotics</i> b) blood glucose- treat if low with 2ml/kg 10% dextrose c) blood gas</p> <p>4) Initial fluid bolus given? <input type="checkbox"/> TIME 20ml/kg 0.9% saline IV over 5-10 minutes</p> <p>5) IV/IO Antibiotic GIVEN <input type="checkbox"/> TIME <i>(see chart on reverse)</i></p> <p>6) Consider inotropic support early <input type="checkbox"/> TIME If normal physiological parameters not restores after ≥40ml/kg fluids</p> <p>Screen for severe sepsis (see step 3)</p>	<p>Are any of the following present?</p> <table border="1" data-bbox="1238 517 1617 895"> <tr><td>Hypotension</td><td><input type="checkbox"/></td></tr> <tr><td>Central capillary refill >3 seconds</td><td><input type="checkbox"/></td></tr> <tr><td>Diminished peripheral pulses compared to central</td><td><input type="checkbox"/></td></tr> <tr><td>Altered mental status (not previously noted)</td><td><input type="checkbox"/></td></tr> <tr><td>Urine output <1ml/kg/hour</td><td><input type="checkbox"/></td></tr> <tr><td>Lactate >2mmol/L</td><td><input type="checkbox"/></td></tr> <tr><td>Failure of physiological parameters to normalise after 40 ml/kg fluid</td><td><input type="checkbox"/></td></tr> </table> <p>If NONE of the above treat as sepsis and screen hourly for severe sepsis</p> <p>If yes to ANY of the above, patient has SEVERE SEPSIS. Commence the following actions:</p> <p>1) Inform Paediatric consultant if not already done so</p> <p>2) Contact CATS if not already done so</p> <p>3) Ensure fluid bolus of at least 40ml/kg given</p> <p>4) If failure of physiological parameters to normalise after 40ml/kg fluid consider inotropes</p>	Hypotension	<input type="checkbox"/>	Central capillary refill >3 seconds	<input type="checkbox"/>	Diminished peripheral pulses compared to central	<input type="checkbox"/>	Altered mental status (not previously noted)	<input type="checkbox"/>	Urine output <1ml/kg/hour	<input type="checkbox"/>	Lactate >2mmol/L	<input type="checkbox"/>	Failure of physiological parameters to normalise after 40 ml/kg fluid	<input type="checkbox"/>	<p>TARGETS</p> <ol style="list-style-type: none"> 1) Capillary refill ≤ 2 seconds 2) Normal HR/BP for age 3) No difference in quality between central and peripheral pulses 4) Warm extremities 5) Normal mental status 6) Urine output >1ml/kg/hour 7) Serum lactate <2mmol/L 8) Normal blood glucose concentration <p>Actions</p> <p>1) Repeat fluid bolus to achieve above targets -examine for crepitations and hepatomegaly, if present commence inotropes</p> <p>2) If normal physiological parameters not restored despite >40ml/kg fluids or signs of heart failure - Follow guidelines for severe sepsis - Begin peripheral inotropic support until central venous access obtained - Obtain central venous access - Give inotropes via central line</p>
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<p>Step 1b: Paediatric registrar assessment:</p> <p>a) Sepsis unlikely: Exit pathway and manage as working differential diagnosis <input type="checkbox"/></p> <p>b) Sepsis likely: Move to step 2 of this pathway and document time of diagnosis <input type="checkbox"/></p> <p><input type="checkbox"/> TIME</p>			<p>Contacts</p> <p>Paediatric Reg : blp 3111 Paediatric consultant: via switch Anaesthetist: blp 3305/fastbleep CATS: 0800 085 0003 Microbiology: 5085/blp 3069</p>																										

Table 2: Antimicrobial therapy for paediatric sepsis of unknown origin

Clinical condition	<h2 style="text-align: center;">Severe Sepsis of Unknown Origin (in children >3 months old)</h2> <p style="text-align: center;">(NB excludes children with meningitis / meningo-ecphalitis & < 3 months old))</p>		
General Treatment Points	<ul style="list-style-type: none"> • Severe sepsis treatment is indicated when a child with evidence of any bacterial infection shows signs of cardiovascular compromise, sufficient to warrant treatment including (but not limited to) >1x 20ml/Kg fluid boluses, inotropes, transfer to PICU. • Always inform the on-call paediatric consultant if treating a child with presumed bacterial sepsis • The antibiotic guidance in this section is intended only for cases where there is no clear primary focus of infection. • For patients with a clear primary focus, please see the relevant section of the paediatrics antibiotic guideline, for the appropriate IV antibiotics of choice. • If suspected meningitis see separate 'Bacterial Meningitis in Children' guideline on intranet & meningitis section of this guideline. DO NOT use antibiotics below, treat as per meningitis guidance • If suspected or confirmed meningococcal septicaemia, see separate 'Early management of meningococcal disease in children' guideline on intranet. • Always take blood cultures before starting antibiotics. • If the child has signs of sepsis related shock and might require calcium infusions then do not use ceftriaxone as it can precipitate out if it is co-administered with iv calcium. • Once the need for calcium infusions has passed the child can be converted to OD ceftriaxone and managed as an ambulatory patient if otherwise clinically well. • If known MRSA carrier - see point 12 in general treatment advice (page 2) 		
IV	First Line	Meropenem 1month -12 years & <50 Kg 20 mg/kg TDS 1 month -12 years & >50 Kg 1g TDS >12 years 1g TDS NB in absence of renal impairment, consider increasing to QDS (D/W Microbiology first)	Antibiotic administration 500mg & 1g vials- add WFI as per instruction leaflet as brand displacements vary. Dose 20mgs/kgs-slow bolus 40mgs/kg-infusion over 30mins
	Penicillin Allergic (Discuss with on-call Microbiologist as well)	Ciprofloxacin < 1 month 10 mg/kg BD >1 month 10 mg/kg TDS (max 400 mg) + Gentamicin 7 mg/kg od	Cipro-Ready diluted -Infuse over 60 mins Gent- dilute with N/S or G to 20-50mls infuse over 30mins