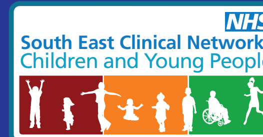
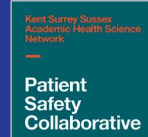
Sepsis Pathway < 18 years

Clinical Assessment / Management tool for Children and Young People

December 2016
Kent, Surrey & Sussex Version





Assessment and Management – Out of Hospital Setting

Child presents with signs and/or symptoms of infection

- ***Think sepsis***, even if they do not have a high temperature.
- Be aware that children with sepsis may have non-specific, non-localising presentations
- **Pay particular attention to concerns expressed by the child and family/carer**
- Take particular care in the assessment of children, who might have sepsis, who are unable, or their parent/carer is unable, to give a good history

Consider additional vulnerability to sepsis:

- the very young (<1yr)
- non-immunised
- recent (<6 weeks) trauma or surgery or invasive procedure
- Impaired immunity due to illness or drugs
- Indwelling lines/catheters, any breach of skin integrity e.g. any cuts, burns, blisters or skin infections.

If at risk of neutropenic sepsis - refer to secondary care

Perform Assessment to identify likely source of infection, risk factors and clinical indicators of concern (see below)

Sepsis not suspected	Suspect Sepsis

Sepsis not suspected → **No Moderate or High Risk Criteria met** → Clinical Action

Suspect Sepsis →

Stratify risk of severe illness and death from sepsis using risk criteria

Table 1

Moderate to High Risk					RISK CRITERIA	High Risk					
Look for 2 of :											
<1	1-2	3-5	6-11	12-17	AGE (yr)	<1	1-2	3-5	6-11	12-17	Any CYP
50-59	40-49	30-39	22-29	21-24	Resp Rate (brpm)	>60	>50	>40	>30	>25	
<91% in air or increased oxygen requirement			<92% in air or increased oxygen requirement		O_2 sat	<90% in air or increased oxygen requirement					
150-159	140-149	130-139	120-129	90-100	Heart Rate (bpm)	>160	>150	>140	>120	>100	<60
3-6 months >39℃					Temperature	Less than 3 months (or oncology patient) >38℃					<36℃

Moderate to High Risk	RISK CRITERIA	High Risk
Plus 1 of :		
• Not responding normally to social cues e.g. no smile • Wakes only with prolonged stimulation • Decreased activity • Poor feeding in infants • Parent or carer concern that the child is behaving differently than usual • Limb pain	Activity / Behaviour (see also Table 2 overleaf)	• Altered behaviour or mental state: - No response to social cues - Does not wake or if roused does not stay awake • Weak, high pitched or continuous cry • Appears ill to a healthcare professional
• Nasal flaring	Respiratory	• Grunting • Apnoea
• CRT ≧3 seconds or flash fill • Pale or flushed • Pallor of skin, lips or tongue • Cold hands or feet • Dry mucous membranes • Reduced urine output	Circulation / Hydration	• Appearance of skin: mottled, ashen or cyanotic • Cyanosis of lips or tongue
	Skin	• Non-blanching rash of skin

RECORD ALL CLINICAL FINDINGS

Are 2 + 1 criteria present? Proceed to pathway as below

Are 2 + 1 criteria met of the Moderate to High Risk section?

NO → Clinical Action

YES ↓

Seek advice from Paediatrician-On-Call. Can a definitive diagnosis be made and treated in an out of hospital setting?

YES → Clinical Action

NO → Urgent Action

2 + 1 Criteria for High Risk met or immuno-compromised → Urgent Action

Clinical Action

Where a definitive condition affecting the child can be identified, use clinical judgment to treat using NICE guidance relevant to their diagnosis when available.

Safety-Netting

- Arrange follow up and re-assessment as clinically appropriate.
- Provide information about symptoms to monitor and how to access medical care.
- Consider if there are any issues relating to safeguarding that require action.

Urgent Action

- **Request 999 ambulance and say "Red Flag Sepsis" for fastest response time from Ambulance Service. Send patient urgently to emergency paediatric care service (to a setting that has resuscitation facilities)**
- **Where possible, alert hospital and provide clinical data**
- **Consider antibiotics if transfer time will be > 1 hour [See Table 3 overleaf for dosages from BNF]**

This guidance was written in collaboration with SE Clinical Networks involving extensive consultation with healthcare professionals and including from Wessex SCN.

This document was arrived at after careful consideration of the evidence available including but not exclusively NICE, SIGN, EBM data and NHS evidence, as applicable. Healthcare professionals are expected to take it fully into account when exercising their clinical judgement. The guidance does not, however, override the individual responsibility of healthcare professionals to make decisions appropriate to the circumstances of the individual patient in consultation with the patient and / or carer.

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South East Clinical Networks Children and Young People

Patient Safety Collaborative

Assessment and Management – Out of Hospital Setting

Level of Consciousness Assessment "AVPU"

The AVPU scale is a system for measuring and recording a patient's responsiveness in order to indicate their level of consciousness. It is a simplification of the Glasgow Coma Scale, using three measures to assess a patient's response: eyes, voice, and motor skills. The AVPU scale should be assessed using these three identifiable traits, looking for the best response for each. It has four possible outcomes for recording and the clinician should always work from best (A) to worst (U) to avoid unnecessary tests on patients who are clearly conscious. On the other hand, it should not be used for long-term follow up of neurological status.

Table 2

Status		Behaviour Assessment
A	ALERT	Child is active and responds appropriately to clinician and other external stimuli. [GCS equivalent score 15]
V	VOICE	Responds only when his or her name is called by clinician.
P	PAIN	Responds only when painful stimuli is received such as pinching the nail bed.
U	UNRESPONSIVE	No response at all. [GCS equivalent score 3]

Where can I learn more about paediatric assessment?

We also recommend signing up to the online and interactive learning tool **Spotting the Sick Child**. It is free of charge. It was commissioned by the Department of Health to support health professionals in the assessment of the acutely sick child. It is also CPD certified.

www.spottingthesickchild.com

*GP / Clinician Priority Phonelines / Contact Numbers at Local Hospitals

Surrey and Sussex Area Hospitals

Ashford and St Peter's Hospital NHS Foundation Trust, Chertsey **01932 872000**

Brighton and Sussex University Hospitals NHS Trust Royal Alexandra Hospital, Brighton **01273 523230**

East Sussex Healthcare NHS Trust Conquest Hospital, Hastings **01424 755255** Eastbourne District General Hospital **01323 417400**

Frimley Park Hospital NHS Foundation Trust, Camberley **01276 604604 Bleep 100**

Royal Surrey County Hospital NHS Foundation Trust, Guildford **01483 571122**

Surrey and Sussex Healthcare NHS Trust East Surrey Hospital, Redhill **01737 231807**

Western Sussex Hospitals NHS Trust St Richards Hospital, Chichester **01243 536180/1** Worthing Hospital **01903 285060**

Kent and Medway Area Hospitals

Dartford and Gravesham NHS Trust Darent Valley Hospital / Queen Marys Hospital Sidcup / Erith and District Hospital **01322 428100 Bleep 316** (same number applies to both hospital sites)

East Kent Hospitals NHS Trust Queen Elizabeth The Queen Mother Hospital, Margate / William Harvey Hospital, Ashford **01227 783190** (same number applies to both hospital sites)

Maidstone and Tonbridge Wells NHS Trust 01622 723011

Medway Maritime Hospital, Gillingham **01634 825000**

With many thanks to all those who have supported the development and distribution of our pathways especially:

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And with the collaboration of the Wessex Paediatric Sepsis Screening Tool Group.

Table 3

Information from British National Formulary (BNF) for Children:

If meningococcal disease (meningitis with non-blanching rash or meningococcal septicaemia) is suspected, a single dose of benzylpenicillin should be given before transferring the child to hospital urgently, so long as this does not delay the transfer. If a child with suspected bacterial meningitis without non-blanching rash [or with other suspected sepsis secondary to another bacterial infection] cannot be transferred to hospital within one hour from time of presentation, a single dose of benzylpenicillin should be given before the transfer. Suitable doses of benzylpenicillin by intravenous injection (or by intramuscular injection) are: Infant under 1 year 300 mg; Child 1–9 years 600 mg, 10 years and over 1.2 g. In penicillin allergy, cefotaxime (section 5.1.2) may be an alternative; chloramphenicol (section 5.1.7) may be used if there is a history of anaphylaxis to penicillins.

Dear Colleague,

This has been produced by local clinical groups including representatives from acute, community and primary care as well as parents, education and social care and based on local independent clinical consensus. In particular we would also like to thank Wessex SCN and Paediatrics and Emergency Medicine colleagues for their support in finalising these versions for circulation.

To feedback or for further information including how to obtain more copies (Please Quote Ref: **SEP2**) of this document we have one mailbox for these queries on behalf of the South East Clinical Network area (Kent, Surrey and Sussex).
Please email: CWSCCG.cypSECpathways@nhs.net

Yours sincerely

The Network

Sepsis: recognition, diagnosis and early management Guidelines NG51 https://www.nice.org.uk/guidance/ng51 July 2016.

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