Diarrhoea and/or Vomiting (Gastroenteritis) Pathway

Clinical Assessment / Management for Children Younger than 5 years with suspected Gastroenteritis

December 2016
Kent, Surrey & Sussex Version

NHS South East Clinical Networks Children and Young People

Kent Surrey Sussex Academic Health Science Network — Patient Safety Collaborative

Management - Primary Care and Community Settings

Think Sepsis

Patient presents with or has a history of diarrhoea and / or vomiting

SUSPECTED GASTROENTERITIS

History
Assessment of Vital Signs - Temp, Heart Rate, RR, CRT
Consider Stool Microscopy [**Fig 3**]
Consider differential diagnosis
History Hydration Antipyretics Assess
Oral Rehydration Solution (ORS) 1 ml / kg every 10 minutes and/or continue breastfeeding
Fruit juice / carbonated drinks should be excluded

Do the symptoms and/or signs suggest an **immediately life threatening (high risk)** illness?

Yes

- **Refer immediately to emergency care by 999**
- Follow local hospital referral pathway to Paediatric Emergency Service
- Stay with child whilst waiting and prepare documentation

Consider any of the following as possible indicators of diagnoses other than gastroenteritis [and See Table 3 overleaf]:
• Fever: Temperature of ≥ 38°C (younger than 3 months) • Temperature of ≥ 39°C (3 months or older) • Shortness of breath or tachypnoea • Altered state of consciousness • Consider a diagnosis of diabetes • Neck stiffness • Bulging fontanelle in infants • Non blanching rash • Blood and/or mucous in stool • Bilious (green) vomit • Projectile vomiting • Vomiting alone • Head Injury • Severe localised abdominal pain • Abdominal distension or rebound tenderness • History/Suspicion of poisoning e.g. Carbon Monoxide

Discuss following usual hospital referral pathway to Paediatrics / Paediatric Emergency Department

Record your findings.
GMC Best Practice recommendation http://bit.ly/1DPXl2b

Table 1

Clinical Findings	Green - low risk	Amber - intermediate risk	Red - high risk
Age	Over 3 months old	Under 3 months old	
Behaviour	• Responds normally to social cues • Content / smiles • Stays awake / awakens quickly • Strong normal crying / not crying	• Altered response to social cues • No smile • Decreased activity • Irritable • Lethargic • Appears unwell	• No response to social cues • Unable to rouse or if roused does not stay awake • Weak, high pitched or continuous cry • Appears ill to a healthcare professional
Skin **Hydration**	• Normal skin colour • Normal turgor • Warm extremities • Not dehydrated • CRT < 2 secs • Moist mucous membranes (except after a drink) • Normal urine output • Fontanelle normal	• Normal skin colour • Warm extremities • Reduced skin turgor • Clinically dehydrated • CRT 2-3 secs • Dry mucous membranes (except for mouth breather) • History of reduced urine output or fewer wet nappies than usual • Sunken fontanelle	• Pale / mottled / ashen blue • Cold extremities • Clinical Shock • CRT> 3 secs • History of significant reduction in output or dry nappies > 18 hours • Markedly sunken fontanelle
Respiratory Measured at rest for 30 seconds	• Normal breathing pattern and rate**	• Normal breathing pattern and rate**	• Abnormal breathing / tachypnoea**
Heart Rate	• Heart rate normal • Peripheral pulses normal	• Mild tachycardia** • Peripheral pulses normal	• Severe tachycardia**
Eyes	• Normal Eyes • Not sunken	• Sunken Eyes	Sunken eyes

Fig 1 Management of Clinical Dehydration
- Increase oral fluid intake to 2 mls/kg every 10 mins with an oral rehydration solution (ORS) aiming for 50 ml/kg over 4 hours
- Continue breast/bottle feeding, little and often
- Monitor response to ORS with parents and continue as required.
- Continue ORS if ongoing losses
- Refer to Paediatrics if child is deteriorating after 2 hours and if after 4 hours a child is failing to respond to ORS

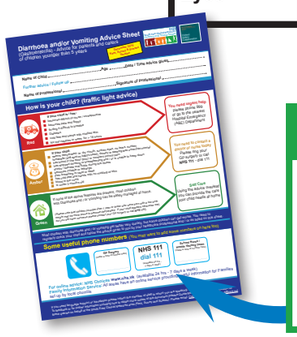
Fig 2 Children at increased risk of dehydration are those:
- Aged <1 year old (and especially the < 6 month age group)
- Low birth weight
- Has had six or more episodes of diarrhoea in the past 24 hours
- Have vomited three times or more in the last 24 hours
- Have not taken or have not been offered fluids before presentation
- Infants who have stopped breastfeeding during the illness
- Children with malnutrition or faltering growth

Fig 3 Stool Microscopy perform if:
- Suspected septicaemia
- Or immunocompromised
- Or blood / mucous in stools
- Or history of travel abroad
- Or no improvement in diarrhoea after 7 days

Table 2 Normal Paediatric Values:

(APLS†)	Respiratory Rate at rest: [b/min]	Heart Rate [bpm]
< 1 year	30 - 40	110 - 160
1-2 years	25 - 35	100 - 150
> 2-5 years	25 - 30	95 - 140

†Advanced Paediatric Life Support The Practical Approach Fifth Edition Advanced Life Support Group Edited by Martin Samuels; Susan Wieteska Wiley-Blackwell / 2011 BMJ Books.



Green Action

To avoid dehydration (see patient advice sheet)
Continue with breast and / or bottle feeding
Encourage fluid intake, little and often eg. 5mls every 5 mins
Children at increased risk of dehydration [see Fig 2]
Confirm they are comfortable with the decisions / advice given and then think "Safeguarding" before sending home.
See [Fig 3] for Stool sample microscopy indications

Amber Action

Advice from Paediatrician-On-Call* should be sought and/or a clear management plan agreed with parents.
Begin management of clinical dehydration algorithm [see Fig 1]
Consider seeking advice if diagnostic uncertainty continues
See [Fig 3] for Stool sample microscopy indications

Urgent Action

Refer immediately to emergency care by 999
Follow local hospital referral pathway to Paediatric Emergency Service
Consider initiating Management of Clinical Dehydration [Fig 1] to stabilise child for transfer as appropriate
Consider commencing high flow oxygen support.
Send relevant documentation
See [Fig 3] for Stool sample microscopy indications

* Please see overleaf for telephone numbers
** Please see Normal Paediatric Values in Table 2 above.

First Draft Version: May 2011 Subsequent Versions have been published in Nov 2013, Jan 2015 and May 2015. Date of this Refreshed Version: Dec 2016 Review Date: Dec 2018

This guidance is written in the following context:

Supporting Information

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Table 3

Differential Diagnosis	Most important features
Sepsis	Sepsis - fever (especially >38°C in under 3 month old infants; >39°C in 3-6 month infants); tachypnoea/ tachycardia; non blanching rash; altered conscious level
Appendicitis	Fever, anorexia, nausea/vomiting, migration of pain from central to RIF (see Appendicitis score – **Table 4**)
Constipation	Positive bowel habit history. Pain mainly left sided/ supra pubic. If acute look for organic causes (ie obstruction)
Diabetic ketoacidosis	Known diabetic or history of polydipsia/ polyuria and weight loss, BM >11, metabolic acidosis (pH< 7.3 / HCO3 <15) and blood ketones > 3 or ketone sticks more than 2+. (tests where available)
HUS	Unwell child with bloody diarrhoea and triad of: anaemia, thrombocytopenia & renal failure
Infantile reflux / cows milk protein intolerance (CMPI)	Infant with inconsolable crying, drawing up of knees, back arching and sometimes blood in stools (CMPI) For more detail on the Infant Feeding pathways please see website or email: CWSCCG.cypSECpathways@nhs.net
Infective Diarrhoea	Blood or mucous in stools; foreign travel
Intussusception	Mostly < 2 yrs, pain intermittent with increasing frequency, vomits (sometimes with bile), drawing up of knees, 'red currant jelly' stool (late sign)
Irreducible hernia	Painful enlargement of previously reducible hernia +/- signs of bowel obstruction
Meckel's diverticulum	Usually painless rectal bleeding. Symptoms of intestinal obstruction. Can mimic appendicitis
Neurological Pathology	Bulging fontanelle; head injury; altered conscious level; neck stiffness; headache
Pyloric Stenosis	Projectile vomiting; worsening vomiting; clinically dehydrated(sunken fontanelle, dry nappies + mucous membranes; lethargy); weight loss; usually presents between 3-6 weeks old
Surgical Abdomen	Localised abdominal pain; abdominal distention; rebound tenderness; bilious(green) vomitus
Urinary Tract Infection (UTI)	Fever, dysuria, loin/ abdominal pain, urine dipstick positive for nitrites/ leucocytes. Follow local guidelines.

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 / copies (Please Quote Ref: **DV2**) please email: CWSCCG.cypSECpathways@nhs.net

Yours sincerely

The Network

Glossary of Terms and Abbreviations

APLS	Advanced Paediatric Life Support	**HR**	Heart Rate
CPD	Continuous Professional Development	**O_2 SATS**	Oxygen Saturation in Air
CRT	Capillary Refill Time	**RR**	Respiratory Rate
ED	Hospital Emergency Department		

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**

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