York Teaching Hospital NHS
NHS Foundation Trust

NHS
Vale of York
Clinical Commissioning Group

Clinical Assessment Tool

Child with Suspected Gastroenteritis 0-5 Years

Diarrhoea is defined as the passage of three or more loose/watery stools per day, the most common cause of diarrhoea in children is acute gastroenteritis.
Acute gastroenteritis accounts for 10% of annual presentations to healthcare services per annum; however the majority can be managed safely at home.

Child presenting with diarrhoea and vomiting
Assess for signs of dehydration, see Traffic Light system (table 1 below) consider alternative diagnoses (Box 1 below)

If all green features and no amber or red	If any amber features and no red	If any red features
No clinical dehydration	Clinical Dehydration	Significant Dehydration
Manage at home with maintenance oral fluids. All infants under 6 months with significant symptoms should be discussed with paediatrics.	Home with advice to give oral rehydration solution. **Consider admission** dependent on severity of child and social circumstance. If there is blood or mucus in the stool, suspicion of septicaemia or if the child is immunocompromised discuss with paediatrics or admit All infants under 6 months with significant symptoms should be discussed with paediatrics	Refer to paediatrics, consider 999 ambulance if severe dehydration
Advise parents to maintain hydration by giving hourly volumes suggested under Maintenance Fluid Volumes for children. Infants who are breast fed should continue demand breast feeding; do not give Oral Rehydration Solutions. Discourage fruit juices and carbonated drinks. Offer Oral Rehydration solution as a supplemental fluid to those at increased risk of dehydration. (see Box 2) Record amount taken and diarrhoea or vomiting	Advise parents to give oral rehydration solution over 4 hours without delay, often and in small amounts. Aim to rehydrate (50ml/kg over 4 hours) - for details see Children Oral Fluid Challenge. Infants who are breast fed should continue demand breast feeding; do not give Oral Rehydration Solutions. Record amount taken and diarrhoea or vomiting	

If the child continues to vomit with oral rehydration fluids or has 2 or more episodes of diarrhoea in 4 hours then the child needs a repeat review

GP Author: Dr Helen O'Malley **Consultant Author:** Dr Ianthe Abbey
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Traffic Light System for Identifying Signs and Symptoms of Clinical Dehydration and Shock

	Green No clinically detectable dehydration	Amber Clinical Dehydration	Red Significant Dehydration
Activity	Alert	Fatigued	Depressed conscious state Lethargic Irritable
Heart Rate	Heart rate normal	Mild Tachycardia	Tachycardia or bradycardia (late sign)
Respiratory	Normal breathing	Tachypnoea	Tachypnoea
Eyes	Normal	Sunken	Deeply sunken
Mucous Membranes	Normal	Dry	Very dry
Central Capillary Refill Time	Normal	Normal	Very prolonged
Skin Turgor	Normal	Normal	Very reduced Doughy skin
Hands and Feet	Warm	Warm	Cold pale Mottled peripheries
Urine Output	Normal	Decreased	Markedly decreased or absent
Thirst	Normal	Increased	____
Weight Loss	Weight loss <3%	Weight loss of 3-5%	Weight loss >5%

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Box 1 Consider the following that may indicate diagnoses other than gastroenteritis:

- Temperature of 38°C or higher (younger than 3 months)
- Temperature of 39°C or higher (3 months or older)
- Shortness of breath or tachypnoea
- Altered conscious state
- Neck-stiffness
- Abdominal distension or rebound tenderness
- Bulging fontanelle (in infants)
- Non-blanching rash
- Blood and/or mucus in stool
- Bilious (green) vomit
- Severe or localised abdominal pain

Box 2 These children are at increased risk of dehydration:

- Children younger than 1 year, especially those younger than 6 months
- Infants who were of a low birth weight
- Children who have passed six or more diarrhoeal stools in the past 24 hours.
- Children who have vomited three times or more in the last 24 hours.
- Children who have not been offered or have not been able to tolerate supplementary fluids before presentation.
- Infants who have stopped breastfeeding during the illness.
- Children with signs of malnutrition.

Box 3 Normal Paediatric Values:

Mean Respiratory Rate:	**Mean Heart Rate:**
Infant: 40	Infant: 120-170 bpm
Toddler: 35	Toddler: 80-110 bpm
Pre-School: 31	Pre-School: 70-110 bpm
School age: 27	School age: 70-110 bpm

Box 4 Stool Microbiology Advice:

Consider performing stool microbiological investigations if:

the child has recently been abroad or

the diarrhoea has not improved by day 7

Some Useful Telephone Numbers

Ensure the parent/carer has the number of their:

GP/Practice Nurse .....

Community Nurse .....

Walk in Centre .....

NHS111 .....

When you feel a GP review in a specific time period is clinically appropriate but that falls outside of the 'in hours' GP service please advise your patient/family to call NHS 111 (at an agreed time interval / level of deterioration – depending on your concerns) and advise that there is a 'predetermined plan to speak with an Out of Hours GP'. Please provide your patient / family with a letter detailing your clinical findings and concerns to help the Out of Hours GP assessment.

This guidance is written in the following context:
This assessment tool was arrived at after careful consideration of the evidence available including but not exclusively Gloucester CCG, NICE clinical guidelines, EBM data and NHS evidence. 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 guardian or carer.

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Maintenance Fluids - for Children with GREEN SYMPTOMS

The table below gives the normal maintenance fluid volumes based on weight for mild to moderately dehydrated children. For the first 10kg of weight- 4ml/kg/hour, for the second 10kg – 2ml/kg/hr., For all remaining kg – 1ml/kg/hr. Aim for 75-100% of the fluid volumes listed below per hour when awake, given gradually over the hour via syringe. Fluid should be clear, ideally oral rehydration solutions e.g. Dioralyte©.

- **Consider feeding 4 hourly during the night.**

If the child is breast-fed continue breastfeeding. Seek review if the patient:

- Is not taking fluids
- Is not keeping fluids down
- Is becoming more unwell
- Has reduced urine output

Child's weight in kg	Maintenance fluid volume – ml per hour	Child's weight in kg	Maintenance fluid volume – ml per hour
2	8	31	71
3	12	32	72
4	16	33	73
5	20	34	74
6	24	35	75
7	28	36	76
8	32	37	77
9	36	38	78
10	40	39	79
11	42	40	80
12	44	41	81
13	46	42	82
14	48	43	83
15	50	44	84
16	52	45	85
17	54	46	86
18	56	47	87
19	58	48	88
20	60	49	89
21	61	50	90
22	62	51	91
23	62	52	92
24	64	53	93
25	65	54	94
26	66	55	95
27	67	56	96
28	68	57	97
29	69	58	98
30	70	59	99

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Rehydration Fluids: Children's Oral Fluid Challenge for Children with clinical dehydration – AMBER SYMPTOMS

The table below gives the **rehydration fluid volumes** for a child with amber symptoms, **plus the normal maintenance fluid volumes** based on weight. The rehydration fluids are based on 50ml of fluid for every kg in weight given every 10 minutes over 4 hours. The maintenance fluids over a 4 hour period are also included in this calculation.

Child's weight in kg	Rehydration fluid volume – **ml every 10 minutes over 4 hours**	Child's weight in kg	Rehydration fluid volume – **ml every 10 minutes over 4 hours**
2	5	31	77
3	8	32	79
4	11	33	81
5	13	34	83
6	16	35	86
7	20	36	88
8	22	37	90
9	25	38	92
10	28	39	94
11	30	40	96
12	32	41	99
13	35	42	102
14	37	43	104
15	39	44	106
16	42	45	108
17	44	46	110
18	47	47	113
19	50	48	115
20	52	49	117
21	54	50	119
22	56	51	121
23	58	52	123
24	61	53	126
25	63	54	129
26	65	55	131
27	67	56	133
28	69	57	135
29	72	58	137
30	75	59	140

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