

Guidance for Management of Acute Diarrhoea in Primary Care

Summary Points – Adults & Children

- Stool microbiology should be requested selectively in the case of acute diarrhoea – guidance is given as to when, what and how below.
- The use of oral rehydration fluids should always be considered.
- Antimicrobials are often not required in acute diarrhoea and can increase the risk of *Clostridium difficile* infection. Guidance on when antimicrobials should be considered is given in Table 2.
- Antimotility agents including loperamide and codeine should **NOT** be given to adults if *Clostridium difficile* infection, dysentery or *E.coli* 0157 is suspected or confirmed due to a small risk of toxic megacolon.
- Antimotility agents should usually be avoided in children.
- Hospital admission may need to be considered if patients with diarrhoea are acutely unwell, particularly those in “high risk” groups.
- A Flow Chart is enclosed on page 8 which incorporates the main features of the guidance and which can be kept in a convenient place for quick reference.
- Guidance on collecting a stool specimen is given on page 9 which can be printed out and given to patients

1. Background

- About 20% of the population develop infectious intestinal disease (IID) per year.
- Most infectious diarrhoea is a **self-limited, usually viral illness**. Nearly half last less than one day.
- If the diarrhoea has stopped, culture is rarely indicated, as recovery of the pathogen is unlikely.
- Infectious diarrhoea should be considered in parallel with other causes of diarrhoea.
- A pathogen is found in only 2 – 5% of specimens submitted.

These guidelines apply to patients with acute diarrhoea consisting of 3 or more unformed stools a day for less than 14 days. A stool is ‘unformed’ when the sample takes the shape of the pot. (A stool sample which takes the shape of the pot (i.e. is unformed) would have a score of 5 or more on the Bristol Stool Chart).

2. When to Send a Stool Sample

The majority of cases of acute diarrhoea are **self-limiting and do not require investigation or management beyond oral rehydration**. It is impractical to collect faecal specimens on all cases of diarrhoea, but if the patient has features listed in Table 1 below (severe disease &/or high risk patient) sampling should be **considered**. See section 9 for advice on collecting a stool specimen for microbiological examination. Formed stools should not be sent for microbiological examination.

Nevertheless, it is particularly important to obtain stools for examination if the patient is thought to have **food-poisoning**, and to notify the Consultant in Communicable Disease Control (CCDC) by telephone if involved in an **outbreak**, so that control measures can be implemented quickly.

Table 1 - Guide to Relevance of Other Features that May Accompany Acute Diarrhoea

Feature present	Comment
Fever	May indicate severe disease or ulcerative colitis
Severe dehydration	
Bloody stool	Dysentery e.g. <i>Campylobacter</i> , <i>C.difficile</i> , <i>Shigella</i> , <i>E.coli</i> 0157, amoebae May indicate ulcerative colitis, which should be considered in addition to infection.
Persistent unexplained abdominal pain	<i>Yersinia</i> can cause symptoms similar to appendicitis (requires specific request for Yersinia culture)
Tenesmus	May indicate ulcerative colitis if associated with bloody diarrhoea
Weight loss, bloating, prolonged (>10 days) diarrhoea, malabsorption, contact with nursery school children	Consider <i>Giardia</i> (requires specific request for Ova Cysts and Parasites examination)
Recent antimicrobial use – within preceding 8 weeks	<i>Clostridium difficile</i> (requires specific request for C diff toxin test)
Recent hospitalisation - within preceding 8 weeks	<i>Clostridium difficile</i> (requires specific request for C diff toxin test)
Recent foreign travel (establish which countries)	May have severe disease/multiple pathogens, including <i>Giardia</i> and <i>Cryptosporidium</i> (requires specific request for Ova Cysts and Parasites examination)
High risk patient	<ul style="list-style-type: none"> • Aged <5 or >60yrs • Immunodeficiency • Gastric hypochlorhydria • Inflammatory bowel disease • Valvular heart disease • Prosthetic valve • Aortic/ventricular aneurysm • Diabetes mellitus • Renal impairment • Rheumatoid Arthritis • Systemic lupus erythematosus (SLE)
Medicines	<ul style="list-style-type: none"> • Immunosuppressive treatment, • PPIs, H2 blockers and antacids. • Certain medications may be affected by severe diarrhoea (for example warfarin, anticonvulsants, and the oral contraceptive pill) • Certain medicines can exacerbate dehydration and renal failure (for example diuretics, angiotensin-converting enzyme inhibitors).

Feature present	Comment
Suspected food poisoning (isolated case)	Statutory notification, documenting source if known. Case should be notified to the Health Protection Agency (Thames Valley Health Protection Unit, Chilton, Didcot, OX11 0RQ, Tel 0345 279 9879)
Suspected outbreak	Inform CCDC by telephone 0345 279 9879 in addition to statutory notification

3. Routinely Laboratory Tests and Tests that Must be Specifically Requested

All unformed stools are screened for *Campylobacter*, *Salmonella*, *Shigella* and *E.coli* 0157. All stools from children ≤ 11 years and the immunocompromised are screened for *Cryptosporidium* and *Giardia*. **Tests for other organisms must be specifically requested (see Table 1 and Flow Chart).**

Tests for the viruses which cause the majority of infectious diarrhoea are not very sensitive and results do not influence patient management. Tests for viruses can be arranged by the laboratory at the request of the CCDC for the investigation of outbreaks.

4. When Should More than One Specimen be Sent?

The OUH has implemented a nationally recommended testing regime for *C.difficile* which means that processing one specimen from the onset of symptom is sufficient. If *Clostridium difficile* disease (CDI) is not detected and there is a strong suspicion of CDI then continue empirical treatment.

Clearance of pathogens from the stool in food handlers, those caring for vulnerable people, young children attending nursery & preschool groups and those at risk of poor hygiene returning to similar settings, are only necessary where the original pathogen was *E.coli* 0157, typhoid, paratyphoid, *Shigella* (but not *Shigella sonnei*), *Entamoeba histolytica* and *Vibrio cholerae*.

For *E.coli* 0157 and *Shigella* (apart from *Shigella sonnei*) **two** negative specimens at **48** hour intervals are required.

For typhoid and paratyphoid recent '[Public Health Operational Guidelines for Typhoid and Paratyphoid \(Enteric Fever\)](#)' recommend clearance criteria for those at risk of spreading the infection (including food handlers) based on the results of 3 samples 48 hours apart starting 1 week post treatment.

Three negative stool cultures at **7 day intervals** are required for other risk groups (those caring for vulnerable people, young children attending nursery & preschool groups and to those at risk of poor hygiene returning to similar settings).

Further advice may be obtained from the Health Protection Unit telephone: 0345 2799879, email: tvphe@phe.gov.uk and is summarised in; "Preventing person-to-person spread following gastrointestinal infections: guidelines for public health physicians and environmental health officers". *Commun Dis Public Health* 2004; 7(4): 362-384. http://www.hpa.org.uk/cdph/issues/CDPHvol7/No4/guidelines2_4_04.pdf

All cases not listed as needing clearance testing above can return to work/nursery once they have had formed stools for 48 hours (i.e. on the basis of symptoms), and there is no need to send stools to establish microbiological clearance. This is particularly the case for CDI as the gut can remain colonised for some indeterminate time post infection.

If there is any doubt about when to return to work, advice may be obtained from the Health Protection Unit telephone: 0345 2799879, email: tvphe@phe.gov.uk

5. What clinical details to include in the electronic request

- Date of onset of diarrhoea
- Patient's occupation if relevant (e.g. food handler, healthcare worker, worker with children, attending nursery if a child)
- Recent foreign travel (state country)
- Other relevant symptoms and signs, or other features of the case (see Table 1)
- If food poisoning suspected, which suspect food eaten and where obtained, incubation period, names of other affected people.
- Appropriate tests required (see Table 1 and Flow Chart)

6. Management Points

- i) Ensure appropriate **rehydration** - water and dilute squash can be advised in adults who are not significantly dehydrated, have mild diarrhoea and are not at risk of becoming significantly dehydrated. For children, those at risk of significant dehydration or those with more severe diarrhoea consider oral rehydration solutions but additional drinks of water can be used in between this.
- ii) Once rehydration is complete further dehydration can be prevented by encouraging the patient to drink normal volumes of appropriate fluid and by replacing continuing losses with additional fluids. In infants, breastfeeding or formula feeds should be offered between oral rehydration solutions (if required).
- iii) Antimotility agents including loperamide and codeine should NOT be given if *C.difficile* infection, dysentery or *E.coli* 0157 is suspected or confirmed (except on advice from a microbiologist/infectious diseases physician or gastroenterologist) due to a small risk of megacolon. Bismuth subsalicylates and adsorbent agents have no effect in decreasing fluid loss in stools. . Antimotility agents should usually be avoided in children (except on advice from a microbiologist/infectious diseases physician or gastroenterologist).
- iv) **Antimicrobials** are indicated only for adults with **severe** bacterial gastroenteritis (after sending a specimen). For children with **severe** bacterial gastroenteritis discuss with on-call Paediatric Team.
- v) Empirical treatment with ciprofloxacin may be given to adults with dysenteric symptoms and **considered** in the elderly and others at high risk of serious complications of gastroenteritis if **systemically unwell** (see 'High Risk' patients in Table 1). Empirical antimicrobial therapy for children is not recommended.

- vi) Consider antimicrobials for culture positive diarrhoea only if patient still symptomatic or if at high risk of complications.
- vii) *Giardia* and Entamoeba should be treated even if symptoms have subsided.

If an antimicrobial is indicated, see Table 2 for recommendations. Also refer to the [Adult Oxfordshire Antimicrobial Prescribing Guidelines for Primary Care](#) and [Paediatric Oxfordshire Antimicrobial Prescribing Guidelines for Primary Care](#).

Table 2 - Guide to Antimicrobial Treatment IF Antimicrobials are required

CONDITION	COMMENTS	DRUG	DOSE*	DURATION OF TX
Gastroenteritis/ Infectious Diarrhoea	Most self-limiting and antimicrobial treatment is rarely required. Antimicrobial therapy is not usually indicated as it only reduces diarrhoea by 1-2 days and can cause antimicrobial resistance or increased incidence of <i>C.difficile</i>.			
	For ADULTS empirical treatment with ciprofloxacin may be given to those with dysenteric symptoms i.e. if bloody diarrhoea is present and considered in the elderly and others at high risk of serious complications of gastroenteritis if systemically unwell (see 'High Risk' patients in Table 1 above).			
	For CHILDREN with dysenteric symptoms - discuss with on-call Paediatric Team.			
	Only consider empirical therapy in ADULTS if the patient is systemically unwell. Usually wait for culture result to reassess whether antimicrobials are indicated.			
	Suspected Campylobacter	clarithromycin	250mg-500mg BD	3-5 days
	Suspected Salmonella / Shigella	ciprofloxacin	500mg BD	3-5 days
<i>Clostridium difficile</i> infection	In ADULTS STOP unnecessary antimicrobials and/or PPIs.	<i>1st/2nd episode (whether recurrence or relapse):</i> vancomycin (oral)	125mg QDS	14 days
	<i>If continued antimicrobial treatment necessary seek microbiology/infectious disease advice.</i>	<i>3rd episode/or severe disease:</i> Seek gastroenterology or microbiology /infectious disease advice		
	Admit if severe: T >38.5; WCC >15, rising creatinine or signs/symptoms of severe colitis.			
	If patient is unable to swallow solid dosage forms give metronidazole suspension.	metronidazole	400mg TDS	14 days
	IN PAEDIATRICS If positive CDI result, discuss with Paediatric ID Team.			
Traveller's Diarrhoea	IN ADULTS: only consider standby antimicrobials for remote areas or people at high-risk of severe illness with travellers' diarrhoea.. If standby treatment appropriate give: ciprofloxacin 500 mg stat (private Rx). If quinolone resistance high (e.g. south Asia) and standby treatment appropriate: consider azithromycin 1g stat (private Rx).			

*Doses given above are for adults

***Clostridium difficile* Infection – Summary**

Clostridium difficile Infection (CDI) is no longer considered a secondary care issue; it is being diagnosed more frequently in primary care and sometimes in patients that have no history of hospitalisation.

Risk factors for CDI include:

- **Previous antimicrobial use**; this is the most significant risk factor for both hospital and community acquired CDI. Consider antimicrobials within the preceding **8 weeks**. Certain antimicrobials have a higher 'risk' for predisposing patients to CDI[#]
- Increasing age (in particular age 65 years and above)
- Multiple co-morbidities
- Proton pump inhibitor and histamine H2 receptor antagonists use (evidence stronger for PPIs)
- Gastrointestinal procedures (both surgical and non-surgical)
- Presence of a naso-gastric tube
- Prolonged hospital stay, particularly with high antimicrobial usage
- Exposure to other long-term care facilities such as nursing homes

- **Quinolones e.g. ciprofloxacin, and clindamycin and cephalosporins are highly provocative agents for pre-disposing patients to CDI. Co-amoxiclav** has also been associated with CDI cases both nationally and locally. These antimicrobials should therefore be avoided unless there are clear clinical indications for their use.

A previous Prescribing Points (June 2009 Volume 18.08) discusses management of CDI and can be accessed [here](#).

7. When to Consider Hospital Referral

- i) Those who are **acutely unwell** with the diarrhoea, especially if other features listed in Table 1 are present. The threshold for referral should be lower in those patients listed as "high risk"
- ii) **Recently returned travellers** whose malaise may be disproportionate to the severity of the diarrhoea; in these patients other life-threatening conditions, such as malaria, may need to be excluded.
- iii) Patients, especially elderly ones, where the social conditions may necessitate hospital in-patient nursing care.

8. References

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Bacterial and Protozoal Gastroenteritis. Guerrant RL and Bobak DA *NEJM*; 1991;325 (5): 327-340

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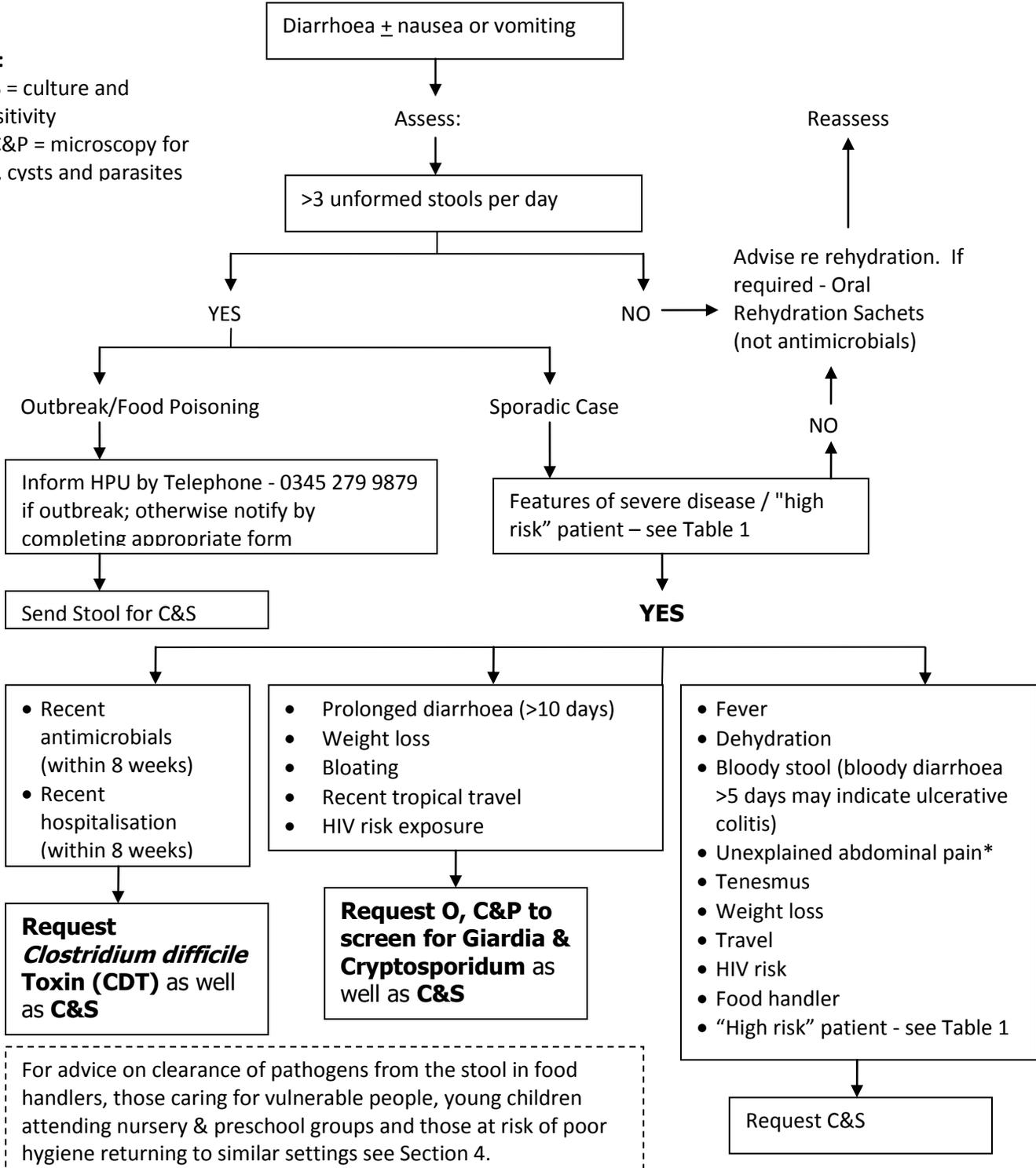
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https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/355864/Public_Health_Operational_Guidelines_for_Enteric_Fever_v1.0_Feb_2012.pdf

Flow Chart Guidelines for Investigation of Acute Diarrhoea in the Community

Key:

C&S = culture and sensitivity
O, C&P = microscopy for ova, cysts and parasites



For advice on clearance of pathogens from the stool in food handlers, those caring for vulnerable people, young children attending nursery & preschool groups and those at risk of poor hygiene returning to similar settings see Section 4.

*Yersinia culture should be specifically requested if unexplained abdominal (particularly right iliac fossa) pain is a prominent feature.

9. Collecting a Stool Specimen for Microbiological Examination

1. Label the collection tube with your name, date of birth and the date of collection before collecting the stool sample.
2. DO NOT mix urine with the stool sample. If you need to pass water, do so first.
3. Place a wide mouth container (potty, empty plastic food container e.g. 1 litre ice cream carton) in the bowl, or put clean newspaper or plastic wrap over the toilet seat opening (this prevents the faecal/stool specimen from falling into the toilet bowl). (Collection container does not have to be sterile, but must be clean).
4. Pass stool onto the potty, plastic container, newspaper or plastic wrap.
5. Using the spoon built into the lid of the collection tube (or the wooden sticks, if supplied), place small scoopsful of stool from areas which appear bloody, slimy or watery into the tube. DO NOT OVERFILL. Try not to spill stool on the outside of the tube.
6. Replace the collection tube lid and screw on tightly.
7. Dispose of remaining stool in your potty, plastic container or newspaper down the toilet. Clean potty with hot soapy water. Wrap plastic container, newspaper or plastic wrap in newspaper and dispose of in normal refuse in a plastic bag.
8. Place the container in the plastic bag attached to the specimen request form.
9. Wash your hands thoroughly in hot running water with soap.
10. Deliver to the surgery/laboratory as soon as possible.
11. If specimen cannot be delivered immediately, refrigerate in surgery fridge until delivery.



September 2010 - Jo Stanney (Medicines Management - OPCT), Amanda Le Conte (Infection Control Lead - OPCT), Ian Bowler (Consultant and Deputy Clinical Lead Microbiology - ORH), Andrew Woodhouse (Consultant in Clinical Infection - ORH), Simon Travis (Consultant Gastroenterologist - ORH), Noel McCarthy (Consultant in Communicable Disease Control (CCDC) – Health Protection Unit)

Updated August 2012 - Jo Stanney, Amanda Le Conte, Ian Bowler, Andrew Pollard, Noel McCarthy.

Updated July and November 2014 – Louisa Griffiths (Medicines Management), Dr Ian Bowler (Consultant and Deputy Clinical Lead Microbiology – ORH), Dr David Grimshaw (CCG Pathology Lead and GP)