

Stool Samples

Guidelines for collection and Interpretation

Background

Diarrhoea is defined as three or more episodes of loose stool that take the shape of the collecting pot. Acute diarrhoea is less than 14 days in duration.

Diarrhoea is caused by many types of infections and in the majority of cases this condition is self-limiting and does not require treatment. However, in severe infection or if the patient is immunocompromised, treatment might be considered. **Clostridium difficile** associated diarrhoea (CDAD) requires appropriate treatment although in some cases this may appear as a self-limiting condition. Antibiotics are **contraindicated** in **E.coli o157** infections as this can potentially increase the risks of complications.

Stools by nature are full of bacteria and isolating pathogens from stool is a challenge. The laboratory uses several selective media to target isolation of suspected pathogens. The decision on which of these selective media are used depends on the suspected pathogens in each given case. If the wrong media is used, pathogens can be missed. It is therefore very important that the right information is given to the laboratory for the precise targeting of pathogens in a stool sample.

If this information is **wrong, missing or misleading**, the report produced by the laboratory is likely to be **erroneous and/or misleading** which may impact on patient management.

It is important to note that most infective causes of diarrhoea require mandatory reporting to Health Protection Unit (HPU) locally.

The reportable diseases and organisms can be found on:

<https://www.gov.uk/notifiable-diseases-and-causative-organisms-how-to-report>

When to send a stool sample to the laboratory

Most diarrhoea episodes due to infection are self-limiting. Microbiological diagnosis of infected diarrhoea might be useful in some cases in order to manage the patient or reduce risk to others. Therefore, sending stool samples to the laboratory might be useful in the following circumstances:

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Clinical Indications

- Blood and/or pus in the stool.
- Children with acute painful, or bloody diarrhoea.
- History of foreign travel. These patients will also need ova, cysts and parasites request with clear documentation of the travel history.
- After antibiotics treatment. The primary request should be for Clostridium difficile (Cdiff). Other tests will be carried out if Cdiff is negative.
- A patient is systemically unwell.
- Prolonged diarrhoea (> 14 days) where amoeba, Giardia or cryptosporidium might be the cause.
- Worsening symptoms in a patient with chronic bowel disease such as irritable bowel syndrome or inflammatory bowel disease.

Public Health Indications

For public health indications, stool collection may be required even in those patients who do not have diarrhoea or no longer have diarrhoea. In these cases, requests to collect stool sample will normally come from the local Health Protection Unit (HPU) and the request form must make it clear that the sample is part of an outbreak investigation.

- Suspected food poisoning
- Diarrhoea in high risk patients such as food handlers, health or child care workers, children at nurseries or after farm visits.
- Contact with other affected individuals in a diarrhoea outbreak such as norovirus. Virology should be requested but it is essential to state that this is part of an outbreak and that testing is requested by HPU as there is otherwise a risk that the sample will be rejected as funding is not available for community viral gastroenteritis in those > 5 years).
- Close household contacts of giardia cases.
- Other cases as directed by HPU.

Managing suspected infectious diarrhoea: A quick reference guide for primary care by Public Health England (PHE) can be accessed via the link below:

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/409769/Infectious_Diarrhoea_PHE_PCU_Quick_Ref_29_01_15_table_only_GP_poster_2_KB_290115_JW_FINAL.pdf

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Required Information

- Patient and sender identifiers:
 - Will ensure report goes to the requestor of the test.
 - Will ensure report is attributed to the correct patient.

- Patient information:
 - Patient immune status, e.g. immunosuppressed.
 - Travel history-the lab might in addition to the common causes of diarrhoea, target unusual causes such as Vibrio cholera in case of travel abroad or E.coli o157 in case of holiday on farms in the UK.
 - Antibiotic history-recent use of antibiotics might indicate probable CDAD.
 - Association with other patients with diarrhoea.

The information is requested to ensure that:

- The laboratory use the right selective media and techniques to identify the right pathogen.
- The laboratory are able to produce an appropriate report for the patient and their clinical condition.

Interpretation

- **Campylobacter, Salmonella (excluding S.typhi and paratyphi)**
 - Most common cause of food poisoning, normally self-limiting condition. Treatment may be required in severe infection or in immunocompromised patient.

- **Cryptosporidium**
 - Self-limiting.

- **Shigella**
 - Self-limiting condition but treatment may be required in severe infection or in immunocompromised patients.

- **E.coli o157**
 - Can be associated with bloody diarrhoea.

- There is a potential complication of haemolytic uraemic syndrome (HUS) which can potentially be fatal.
- **Antibiotics are contra-indicated** as there is a theoretical risk of triggering HUS.

Choice of antibiotics

Most infective causes of diarrhoea do not require antibiotic treatment.

The Area Prescribing Committee Community Antibiotic Guidelines can be found at:

<http://www.coventrywarksapc.nhs.uk/mf.ashx?ID=a08aaed0-eb92-48e2-ac58-05ea6fcf41b8>

Specific guidance on treatment of diarrhoea, should this be necessary, can be found at:

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/409769/Infectious_Diarrhoea_PHE_PCU_Quick_Ref_29_01_15_table_only_GP_poster_2_KB_290115_JW_FINAL.pdf

The HPE link below takes you to guidance which has a summary table on duration and typical symptoms you should expect in infective diarrhoea.

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/336841/guidance_on_preventing_person-to-person_infections_4_04.pdf