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Equality & Diversity statement

The NHS can no longer be reactive in its response to demographic changes within society. There is now a positive duty to be proactive and ensure that it provides services and develops policies that are accessible and appropriate to all sections of the community.

The development/review of this policy has undergone an Equality Impact Assessment [EIA], as per the guidance in the Trust Policy Development Monitoring & Review [P3].

ICP 3

GASTROENTERITIS – VIRAL AND FOOD BORNE

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ICP 3

GASTROENTERITIS – VIRAL AND FOOD BORNE

INTRODUCTION

- 1.1 Food poisoning is defined as any disease of any infective or toxic nature caused by, or thought to be caused by the consumption of food or water.

2 General Advice

- 2.1 All cases of gastroenteritis should be regarded as infectious although many infective and non-infective agents cause diarrhoea and vomiting. A liquid stool is liable to contaminate hands and the environment causing the spread of faecal organisms.
- 2.2 Agents causing gastroenteritis may infect an individual without causing symptoms or be excreted for long periods after recovery from illness. Under these circumstances transmission is unlikely, provided that good personal hygiene is practised. Two or more infected persons associated in place and/or time constitutes an outbreak.
- 2.3 According to Section 11 of the Public Health (Control of Disease) Act 1984 a doctor making or suspecting a diagnosis of Food poisoning and other notifiable diseases is required to notify the case to the "Proper Officer" who is a Consultant in Communicable Disease Control (CCDC) and acts on behalf of the London Borough of Ealing or other local Borough regarding control of notifiable diseases (including food poisoning).
- 2.4 The clinical features of Acute Gastroenteritis that may occur in the hospital and Community are listed in Appendix 1 and Summary of Exclusion of persons posing a special risk of spreading infection are listed in Appendix 2. The high risk groups are defined below:-

3 Risk Groups

3.1 Group 1:

- 3.1.1 Food handlers whose work involves touching unwrapped foods to be consumed raw or without further cooking.

3.2 Group 2:

- 3.2.1 Staff in health care facilities that have direct contact, or contact through serving food, with susceptible patients or persons in whom an intestinal infection would have particularly serious consequences.

3.3 Group 3:

- 3.3.1 Children aged less than 5 years who attend nurseries, nursery schools, playgroups or other similar groups.

3.4 Group 4:

- 3.4.1 Older children and adults who may find it difficult to implement good standards of personal hygiene - e.g. those with learning disabilities or special needs, and in circumstances where hygiene arrangements may be unreliable - e.g. temporary camps housing displaced persons. Under exceptional circumstances children in infant schools may be considered to fall into this group.

NOTE:

Guidelines for the inclusion of cases in risk groups 3 and 4 assume that, once cases have recovered and passed normal stools, they can subsequently practice good hygiene under supervision. If that is not the case, individual circumstances must be assessed.

4 Procedures

- 4.1 The policy deals with general principles to be followed in case of food poisoning. In unusual circumstances or where an outbreak of two or more related cases occur advice should be sought from the Communicable Disease Control at Ealing, Hammersmith & Hounslow Health Authority (EHHHA) or Consultant in Communicable Disease Control on Tel. 020 8893 0158 For Broadmoor Consultant in Communicable Disease Control on Tel. 01189 605209

5 Hospital Patients

- 5.1 The treating clinician will carry out investigations and follow up of patients.
- 5.2 The Infection Control Team will ensure that stool samples are sent to pathology laboratory, with notice to Consultant Microbiologist.
- 5.3 For patients at Broadmoor, advice should be sought from the Consultant Microbiologist at Wexham Park Hospital. The Consultant in Communicable Disease Control and Environmental Health Department will follow up contacts.

6 National Health Service Staff Members

- 6.1 Any gastroenteritis illness in National Health Service employees should be reported to the Microbiologist (Hospital Infection Control Doctor) and to the Occupational Health Department. They will carry out the necessary investigations and follow up and advise on return to work.
- 6.2 Stool specimens will be dealt with by the microbiology department of Ealing Hospital or Charing Cross Hospital or Wexham Park Hospital.
- 6.3 The Consultant in Communicable Disease Control and the Environmental Health Department will follow up contact.

7 Contractors

- 7.1 If presenting with diarrhoea and/or vomiting staff will be sent off immediately and asked to be seen by their GP.
- 7.2 They should not return to work until they have received clearance from their GP. They will be required to sign a form declaring that they have received clearance
- 7.3 Directorate of Facilities and Estates need to be kept informed by the Contractors.

8 General Public

- 8.1 Follow up of cases and contacts in the community remain the responsibility of the Consultant in Communicable Disease Control and Environmental Health Department.
- 8.2 Stool specimens taken in the course of follow up are analysed by the Public Health Laboratory.

9 Viral Outbreaks

- 9.1 An outbreak of gastroenteritis is defined as two or more patients or staff with diarrhoea and/or vomiting. This is most likely to be due to a viral cause.
- 9.2 If there is a risk that there may be an outbreak, the Infection Control Team should be informed as soon as possible. The outbreak policy should be consulted.
- 9.3 Viral gastroenteritis is spread from person to person and some people will be recovered before others become symptomatic. Usually a 'chain' of illness can be identified, e.g. one person vomits on the ward, two people in the room become symptomatic two days later, etc.
- 9.4 Stool specimens should be obtained from all persons, both staff and patients that have symptoms. Do not send vomit specimens as they will not be processed.
- 9.5 If there is a viral outbreak, patients should be segregated, if possible, with the symptomatic kept away from the asymptomatic until they have had normal stools for at least 48 hours. Usually, there will be no need to transfer patients to the medical area unless they are seriously ill.
- 9.6 If staff have symptoms, they must stay away from work until they have normal stools for 48 hours. They must inform Occupational Health to ensure stool specimens are included in the outbreak.
- 9.7 If a ward or area has an outbreak, they should not transfer patients or staff to other areas, even if they are asymptomatic, as this may transfer the outbreak to another area.

10 Contacts:

Microbiology:

Consultant Microbiologist
(Hospital Infection Control Officer)
Tel. 0208 967 5452

Consultant Microbiologist
Wexham Park Hospital
Tel. 01753 633469

Infection Control Advisor:

Tel. 020 8354 8467

Tel. 01344 754490

Occupational Health

Occupational Health Manager
West London Mental Health Trust
St Bernard's Wing Tel. 020 8354 8919
or
Broadmoor Hospital. Tel. 01344 754310

Department of Public Health

(Ealing)
Consultant in Communicable Disease Control
Tel. 020 8893 0158

Department of Public Health

(for Broadmoor Hospital)
Consultant in Communicable Disease Control
Tel. 01189 605209

London Borough of Ealing

Environmental Health Department
Consumer Services Division
Tel. 0208 825 6666

London Borough of Hammersmith & Fulham

(for Charing Cross Hospital)
Environmental Health Department
Consumer Services Division
Tel. 0208 753 1083

Bracknell Forest Borough

(For Broadmoor Hospital)
Environmental Health Department
Food / Safety Enforcement Officer
Tel. 01344 352534

Policy Reviewed by:
Next Review:

Infection Control Team
October 2009

FOOD POISONING

CLINICAL FEATURES OF GASTROINTESTINAL INFECTIONS AND INTOXICATIONS

| Causative Agent | Incubation Period | Common Clinical Features | Mode of Transmission |
|---|---|--|--|
| Campylobacter | 1-11 days Usually 2-5 days | Abdominal pain profuse, often blood stained diarrhoea, Malaise vomiting is uncommon | Faecal/oral Ingestion or handling of contaminated food or water |
| Salmonellosis (excluding typhoid Ingestion of and paratyphoid) | 12-72 hours | Diarrhoea, fever | Faecal/oral vomiting and contaminated food |
| Rota virus | about 48 hours | Diarrhoea Vomiting | Faecal/oral |
| Norovirus (including Norwalk) (SRSV) | usually 24-48 hrs | Diarrhoea, vomiting and fever | Faecal/oral; vomit droplet, respiratory ingestion of contaminated food, particularly shellfish |
| Amoebiasis Bacillary dysentery | usually 2-4 weeks 1-7 days (usually 1-3 days) | Bloody diarrhoea Bloody diarrhoea | Faecal/oral Faecal/oral |
| Cholera | a few hrs – 5 days (usually 2-3 days) | Profuse watery diarrhoea and rapid dehydration | Ingestion of contaminated food or water |
| Escherichia coli (EPEC) | 12-72 hours | Diarrhoea | Faecal/oral |
| Escherichia coli (VTEC) (E0157) uncooked) | 1-8 days | Abdominal pain, diarrhoea with or without blood | Faecal/oral Ingestion of contaminated food (cooked or water and other fluids |

| Causative Agent | Incubation Period | Common Clinical Features | Mode of Transmission |
|---|--|---|---|
| Hepatitis A | 2-6 weeks | Fever, malaise nausea, jaundice | Faecal/oral; Ingestion of contaminated food or water |
| Typhoid | 1-3 weeks | Fever, malaise, constipation | Faecal/oral; Ingestion of contaminated food or water |
| Paratyphoid | 1-10 days (gastroenteritis) 1-3 weeks (enteric fever) | Diarrhoea vomiting and fever as for typhoid | Faecal/oral; Ingestion of contaminated food or water |
| Bacillus cereus | 1-5 hours Or 8-16 hours | Predominantly vomiting Predominantly diarrhoea | Ingestion of contaminated food |
| Clostridium botulinum | 8 hours-8 days | Dysphonia diplopia, ptosis | Ingestion of contaminated food |
| Clostridium perfringens | 8-22 hours (usually 12-18hrs) | Diarrhoea abdominal pain | Ingestion of contaminated food |
| Clostridium difficile (See Appendix 4) | | Diarrhoea | Hands of carers, Environment |
| Vibrio parahaemolyticus food, | 2-48 hours (Usually 12-18 hrs) | Diarrhoea, fever | Ingestion of contaminated particularly shellfish |
| Staphylococcus aureus | 1-7 hours (usually 2-4 hours) | Vomiting | Ingestion of contaminated food |

| Causative Agent | Incubation Period | Common Clinical Features | Mode of Transmission |
|--------------------------|---------------------------------|---|-----------------------------------|
| <i>Giardia</i> | 5–25 days (usually 7-10days) | <i>Diarrhoea</i> abdominal cramps | <i>Faecal/oral</i> |
| Cryptosporidium water | 2-5 days | Watery or mucoid Diarrhoea | Faecal/oral Contaminated |
| Worms | Variable | Variable – depending upon type of worm | Faecal/oral |
| Yersinia | 3-7 days | Watery diarrhoea, mesenteric adenitis fever, arthritis | Ingestion of contaminated food |

FOOD POISONING

 SUMMARY OF EXCLUSION OF PERSONS POSING A SPECIAL RISK OF SPREADING
 INFECTION: (See No. 3 Risk Groups 1- 4)

**FOR EXCLUSIONS PLEASE CONTACT MICROBIOLOGY/ INFECTION CONTROL/
 OCCUPATIONAL HEALTH**

| | EXCLUSION CRITERIA FOR GROUP 1-4 | SYMPTOMLESS CLEARANCE CONTACT | |
|---|---|---|---|
| Campylobacter | 48 hrs after first normal stool | None | None |
| Salmonellosis (excluding typhoid & paratyphoid stool infections) | 48 hrs after first normal | None required where adequate hygiene is practiced | None |
| Virus gastroenteritis | 48 hrs after first normal stool | None | None |
| Small round Structured Virus (including Norwalk) | 48 hrs after first normal stool | None | None |
| Dysentery: amoebic | 48 hours after first normal stool | None | Screen household contacts to detect Cyst excreter |
| Cholera | 48 hours after first normal stool | 2 Negative faeces at least 24 hrs apart | Clinical surveillance |

**SUMMARY OF EXCLUSION OF PERSONS POSING A SPECIAL RISK OF
SPREADING INFECTION (See No. 3 RISK GROUPS 1- 4)**

FOR EXCLUSIONS PLEASE CONTACT MICROBIOLOGY/INFECTION CONTROL/OCC. HEALTH

| | EXCLUSION GROUP 1 – 4 | CRITERIA FOR CLEARANCE | SYMPTOMLESS CONTACT |
|--|--|--|--|
| Hepatitis A | All cases including those in risk Groups 1-4 should be excluded for 7 days after onset of jaundice and/or symptoms | 7 days after onset of jaundice | None |
| <i>Escherichia coli (EPEC)</i> (outbreaks only) | 48 hrs after first normal stool | None | None |
| <i>Escherichia coli (VTEC)</i> <i>E0157</i> | Until cleared | 2 Negative faeces at least 48 hrs apart taken after recovery | Normal stool and no longer excreting the organism after clinical recovery |
| Typhoid and Paratyphoid | Groups 1, 3 and 4 until cleared. Group 2 until clinically well With formed stools | Group 1: Consecutive Negative faeces taken at 2 weeks interval starting 2 weeks after the completion of antibiotic treatment. Group 3 – 4: Three consecutive negative faeces taken at weekly intervals. | Group 1, 3 and 4: Three consecutive negative faeces taken at weekly intervals starting 3 weeks after the last contact with untreated case. |
| <i>Bacillus cereus</i> | None | None | None |
| <i>Clostridium botulinum</i> | None` | None | None |
| <i>Clostridium perfringens</i> | 48 hours | | |
| <i>Clostridium difficile</i> | 48 hrs after first normal stool | None | None |
| <i>Vibrio parahaemolyticus</i> | 48 hrs after first normal stool | None | None |

**SUMMARY OF EXCLUSION OF PERSONS POSING A SPECIAL RISK OF
SPREADING INFECTION: (See No. 3 RISK GROUPS 1- 4)**

FOR EXCLUSIONS PLEASE CONTACT MICROBIOLOGY/INFECTION CONTROL/OCCUPATIONAL HEALTH

| | EXCLUSION GROUP 1- 4 | CRITERIA FOR CLEARANCE | SYMPTOMLESS CONTACT |
|-----------------|--|---|---|
| Giardia | 48 hours after first normal stool | None | None |
| Cryptosporidium | 48 hours after first normal stool | None | None |
| Worms | Until treated | None | Treat household contacts of Threadworm cases only |
| Yersinia | 48 hours after first normal stool | None | None |
| Shigellosis | Cases in risk Group 1 for 4 hours after first normal stool. Cases in Groups 2-4 should be excluded until free from diarrhoea and passing formed stools | 2 negative faeces a week apart for infections with shigella dysentery | Clinical surveillance only |

Cases and contacts of any of the above not in special Groups (1 – 4) see No. 3 Risk Groups need not be excluded from work or school when symptom free.

ISOLATION

All cases of Gastroenteritis should be considered as infectious; therefore the patient should be nursed in a single room using standard precautions and transmission precautions as indicated by a risk assessment.

The Directorate of Estates and Facilities should be informed of isolation.

ENTERIC PRECAUTIONS

Thorough handwashing with liquid soap and warm running water and drying hands properly is the most important factor in preventing the spread of gastrointestinal infections.

In hospital, soiled clothing and bed linen should be sent to the Laundry as infected linen.

DISINFECTION

Toilet seats, flush handles, wash hand basin taps and toilet door handles should be cleaned and disinfected daily or more often depending on how often they are used. An approved chlorine solution should be used.

Bedpans should be washed in the bedpan washers only. Alternatively, disposable bedpans can be used and put in the macerator.

References:

- 1) CDR Review No.11 Volume 5 13 Oct 1995 ISSN 1350-9349
- 2) Guidelines for the Control of Infections with Vero Cytotoxin producing Escherichia coli (VTEC) – Sub committee of PHLS Advisory Committee on Gastrointestinal Infections. Vol 3 No. 1 March 2000.
- 3) CDR Review Vol 3 Review Number 5 23 April 1993 ISSN 0144-3186

CLOSTRIDIUM DIFFICILE

INTRODUCTION

1. THE NATURE OF THE ORGANISM

Clostridium difficile (*C. difficile*) is a gram-positive bacillus that forms subterminal spores. These spores are resistant to exposure to air, drying and heat, survive in the environment and are considered to be the main transmissible form of the organism. *C. difficile* is distinguished from other clostridia on the basis of biochemical tests and the toxins it produces. These include two major toxins that are linked to its pathogenicity - toxin A, an enterotoxin, which causes loss of fluid from the gut mucosa, and toxin B, a potent cytopathic toxin.

In order for transmission to occur, the organism or its spores must reach the patient's gastro-intestinal tract either by ingestion or by direct inoculation into the bowel via contaminated equipment.

2. CLINICAL FEATURES

C. difficile infection is nearly always associated with an alteration in bowel flora, triggered by the use of antibiotics prescribed to treat another condition or given prophylactically. It affects predominantly the colon and may result in a wide spectrum of disease ranging in severity from trivial diarrhoea, through moderately severe disease with abdominal pain, diarrhoea and systemic upset to life-threatening pseudo-membranous colitis (PMC) with toxic megacolon, electrolyte imbalance and even perforation of the bowel. Most patients experience abdominal pain with explosive watery foul-smelling diarrhoea. Some also have a fever.

The diarrhoea can be constant for about forty-eight hours and is therefore very distressing and debilitating, particularly for elderly patients. Recurrence of diarrhoea following apparently successful treatment is common, occurring in up to 20% of cases. These patients may continue excreting *C. difficile* for long periods. Approximately half of so-called relapses are re-infections with a different strain.

- 2.1 Examination of the stools of patients with *C. difficile* diarrhoea reveals not only the presence of the organism but also, and more importantly for diagnostic purposes, the toxins it produces. Throughout this document, the term "*C. difficile* infection" refers to patients who exhibit symptoms due to *C. difficile* infection and who are toxin positive.
- 2.2 Investigations during hospital outbreaks have revealed that many patients in the vicinity of affected cases colonised with the organism may remain asymptomatic carriers, probably for a considerable period. No toxins can be demonstrated in stools from these patients.
- 2.3 *C. difficile* infection appears to be a disease largely confined to acute hospital in-patients, reflecting the fact that this group is more vulnerable, more likely to be given antibiotic treatment and more likely to be exposed to the infection. No outbreaks have been identified in the general community, although sporadic cases occur as they do in hospitals. Many of these infections may well be of endogenous origin. In the community these patients are unlikely to create any public health hazard and may often pass unrecognised.

3 RISK FACTORS FOR ACQUISITION OF C. DIFFICILE INFECTION

The pre-eminent risk factor is the use of antibiotics and most antibiotics can be implicated. Antibiotics associated with C. difficile include ampicillin, clindamycin and the cephalosporins. Antibiotics less likely to cause C. difficile colitis include aminoglycosides, quinolones, ureidopenicillins and trimethoprim.

Other Risk Factors:

- ◆ Age over 60 years
- ◆ Prolonged antibiotic therapy
- ◆ Irradiation
- ◆ Renal failure
- ◆ Obstructive pulmonary disease
- ◆ Malignancies (especially haematologic)
- ◆ Enteric infections that change colonic microfloras.
- ◆ Enteral feeds
- ◆ Patients in Intensive Care Unit or High-Dependency Unit
- ◆ Conditions that impair host-immune defences (such as HIV, malnutrition
Immunosuppressive medications following organ transplantation (chemotherapy for malignant disease).

4 RECOMMENDATIONS TO PREVENT C. DIFFICILE INFECTION

The main elements of prevention are:

- ◆ Handwashing between patients
- ◆ Restricted use of antibiotics
- ◆ Strict enteric precautions when looking after patients with diarrhoea
- ◆ Meticulous cleaning of clinical areas

4.1 Handwashing

- Please refer to Handwashing Policy No.5

- Poor handwashing has frequently played a key role in the spread of infection in hospital, in C. difficile as in other infections.

- After handling a patient or completing any task involving blood, excretions and secretions and contact with soiled equipment, staff should always wash and dry hands thoroughly using soap and water. The equipment provided for washing and drying should be such as to encourage staff to use them regularly.

- ***The use of gloves is not a substitute for handwashing***

- Staff should ensure that patients' hands are cleaned with soap and water after using the lavatory and before meals. Soap and water in a bowl or disposable wipes should be used at the bedside of immobile patients.

4.2 Enteric Precautions

Staff should wear a plastic apron and non-sterile disposable gloves whenever exposure to body fluids and excretions from patient is anticipated. Urine and faeces in bedpans should be disposed of if possible down a lavatory attached to the room. If this is not available, bedpans should be taken to the washer or macerator outside the room. They should be hand-held until placed in the washer or macerator and not placed temporarily on any surfaces. The washer or macerator should be left open when not in operation so that opening it whilst holding a soiled bedpan does not contaminate its handles. 16

4.3 **Cleaning**

C. difficile spores can remain viable on surfaces for months. Careful physical cleaning of environmental surfaces eliminates environmental reservoir and interrupts spread from fomites to patients. When cleaning, particular attention should be paid to toilet areas as well as commodes, and lifting equipment, which are often overlooked in the cleaning process. A strong oxidising agent such as sodium hypochlorite yielding 1,000 ppm of available chlorine should be used to clear the environment of spores.

However, given that spores of C. difficile are highly resistant to conventional cleaning the most important aspect of environmental decontamination is the act of cleaning itself.

All staff should understand the importance of thorough and rigorous cleaning. Following the discharge of the patient, the room and its contents should be cleaned thoroughly. Special attention should be paid to removing all faecal soiling, and in particular to cleaning of furniture, fittings and horizontal surfaces.

Mattresses and pillow covers should be cleaned and replaced if torn. Medical equipment should be decontaminated according to local policy. All equipment that has come into patient contact must be decontaminated according to the disinfection/sterilization policy. Mattresses and pillows should have impermeable covers.

4.4 **Isolation of Patients**

Patients who need to be in isolation must have their emotional and psychological needs addressed – reading materials, television/radio may be utilised to provide stimulus to lessen the ill-effects of isolation.

4.5 **Movement of Patients with C Difficile Infection**

Patients with C. difficile infection should not be transferred to other wards in the hospital, except for purposes of isolation or cohort nursing. Visits to other departments should be kept to a minimum. When this is necessary, either for investigation or treatment, prior arrangements should be made with the Senior Staff of that department so that the infection control policy for the department can be applied.

Patients infected with C. difficile should not be left in a waiting area with other patients.

All procedures should be planned in advance to keep equipment and staff to a minimum and to ensure adequate supplies of cleaning materials. Disposable equipment should be used whenever possible; non-disposable equipment should preferably be sterilized. Staff should wear disposable aprons and gloves and meticulous infection control procedures should be employed. The patient should return to the ward immediately after the procedure. Equipment and surfaces should be appropriately cleaned or disinfected. Linen should be treated as infected. Waste, etc should be bagged and disposed of according to local policy. Patients with C. difficile infection should refrain from food preparation areas e.g. ward kitchens.

5 **TREATMENT OF C. DIFFICILE INFECTION**

5.1 **Drug Therapy**

1st Line

Metronidazole 400 mg tds PO for 7-10 days

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2nd Line

Vancomycin 125 mg qds PO for 7-10 days

Parenteral therapy

Metronidazole 500 mg tds IV (if the oral route is not available)

Vancomycin IV should not be used as there is inadequate excretion into the bowel lumen.

Other Antimicrobial Treatments

If there is no response to metronidazole or vancomycin, the medical microbiologist should be consulted about alternative therapy.

Anti-motility agents should be avoided in severe cases of C. Difficile infection because of the theoretical potential accumulation of toxins in the gut.

5.2 Surgical Intervention

This route is reserved for patients who present with or progress to fulminant colitis or toxic megacolon that is not responsive to medical therapy and those with clinical signs of peritonitis suggesting perforation.

Appropriate perioperative dosing, narrowing the antibiotic spectrum as much as possible when treating infections and discontinuing antibiotics after an appropriate interval are of prime importance in preventing toxic sequelae.