Clostridium difficile Infection: What to do and when
A guide for primary care

Clostridium difficile Infection
What to do and when

The pack can be downloaded from the Knowledge Norfolk site at:
nww.knowledgenorfolk.nhs.uk/infection_control/cdiff/

Infection Prevention and Control
NHS Norfolk
Lakeside 400
Broadland Business Park
Norwich NR7 0WG
Tel: 01603 257119

Produced by NHS Norfolk November 2010

For information regarding care homes, please contact:
Norfolk Health Protection Unit
Thetford Community Healthy Living Centre
Croxton Road
Thetford
IP24 1JD
Tel: 01842 767757
Clostridium difficile Infection (CDI): What to do and when

This pack has been developed to support diagnosis, treatment and prevention of patients with CDI.

It can be used by:

- GPs
- Practice nurses
- District nurses
- Care home staff

- We would suggest that all staff are made aware of this pack and its different elements.
- Time might be allocated in staff or team meetings to promote the use of this pack.

Contents

Information has been divided into the following sections:

1. What is the background?
2. How is it diagnosed?
3. How is it treated?
4. How is it prevented?
5. CDI risk and trigger factors

Appendices:

A. Hand hygiene poster
B. Bristol Stool Chart
C. NHS Norfolk Antibiotic Formulary
D. Other causes of non-infective diarrhoea

Photocopiable resource:

CDI patient leaflet

Reference:
Clostridium difficile infection: How to deal with the problem. DH and HPA. December 2008.
What is the background?

Introduction and background

• Norfolk has been successful each year in reducing cases of CDI. However, cases have been rising steadily within the community.
• With recent emphasis on avoiding hospital admissions, more patients are being cared for in the community. It is therefore essential to manage CDI effectively and safely in this setting.

What is Clostridium difficile?

• Clostridium difficile is a bacterium that lives harmlessly in the gut of many people.
• Approximately 3% of healthy adults are colonised (presence of organism with absence of infection).

What is CDI?

• C. difficile bacteria can result in an infection when a trigger factor, such as antibiotics, cause the bacteria to produce toxins. This can result in inflammation and damage to the inside lining of the gut.
• The symptoms resulting from the infection range from mild diarrhoea to severe bowel complications, such as colitis with dehydration, pseudomembranous colitis, megacolon and perforation.

How is CDI transmitted?

• The bacteria produce spores that can be excreted in the faeces from both colonised and infected patients.
• The spores of C. difficile are resistant to high temperatures and can live in the environment for several months.
• Spores may also be transmitted through the air, for example, when bed clothes are shaken.
• The faecal-oral route is the mode of transmission; this includes:
  1. Hand to mouth via contact with contaminated surfaces or hands.
  2. Spores ingested via food.
Why is CDI an issue?

- Patient safety is the highest priority.
- Our role as health professionals is to ensure that the right patients are tested for CDI and that treatment and hospitalisation is appropriate.
- The Department of Health set a maximum CDI target for Norfolk in 2010-11. This includes cases from acute trusts, community hospitals and GP cases.
- As the chart below demonstrates, we are significantly above target in Norfolk (this includes all acute hospital and community cases).

2010-11

Clostridium difficile reports by specimen date month (HCAI Data Capture System data)
# How is it diagnosed?

**CDI testing**

<table>
<thead>
<tr>
<th>1. <strong>Send specimen:</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>- If other causes of diarrhoea have been excluded (see Appendix D).</td>
</tr>
<tr>
<td>- If patient fits risk factor criteria (see section 4).</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2. <strong>Do not send specimen:</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>- If patient has had a previous positive CDI specimen in the last 28 days.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>3. <strong>Do not send specimen:</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>- If patient has had a previous positive CDI specimen within the last 2 months. (Suspect continuation of the same episode and consider treating only).</td>
</tr>
</tbody>
</table>
CDI testing

A stool sample sent for Microscopy, Culture and Sensitivity (MC&S) will automatically trigger a CDI test

Patient presents with at least one episode of diarrhoea
Bristol Stool Chart types 5-7
(see Appendix B)

- Have other causes of diarrhoea been excluded? (see Appendix D)
  - No: Investigate other causes as appropriate
  - Yes: Proceed to the next step

- Previous positive CDI specimen in the last 2 months?
  - Yes: Does the patient fit any of the risk factor criteria? (see section 4)
    - No: Proceed to the next step
    - Yes: Is CDI still clinically suspected?*
      - No: Send specimen
      - Yes: Proceed to the next step

- Has the patient had a previous positive CDI specimen within 28 days?
  - Yes: Do not send specimen
  - No: Suspected continuation of same episode?
    - Yes: Send specimen
    - No: Proceed to the next step

*Suspicion may rely on previous clinical experience i.e. colour (green-brown), distinctive offensive smell and liquid consistency of stool.
How is it treated?

The same guidelines can be found in the NHS Norfolk Antibiotic Formulary (see Appendix C)

<table>
<thead>
<tr>
<th>Clinical Criteria</th>
<th>Non-severe CDI (mild to moderate) 1st/2nd episode</th>
<th>Non-severe CDI (mild to moderate) 3rd or subsequent episodes</th>
<th>Severe CDI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mild CDI</td>
<td>- Not associated with a raised WCC.</td>
<td>- Not associated with a raised WCC.</td>
<td>- Associated with a WCC &gt;15 x 10⁹/L.</td>
</tr>
<tr>
<td></td>
<td>- Typically associated with &lt;3 stools of types 5-7 on the Bristol Stool Chart per day.</td>
<td>- Typically associated with &lt;3 stools of types 5-7 on the Bristol Stool Chart per day.</td>
<td>- or an acute rising serum creatinine (i.e. &gt;50% increase above baseline).</td>
</tr>
<tr>
<td></td>
<td>- It is typically associated with 3-5 stools per day.</td>
<td>- Associated with a raised WCC that is &lt;15 x 10⁹/L.</td>
<td>- or a temperature of &gt;38.5 or evidence of severe colitis (abdominal or radiological signs).</td>
</tr>
<tr>
<td>Moderate CDI</td>
<td>- Associated with a raised WCC that is &lt;15 x 10⁹/L.</td>
<td>- Typically associated with 3-5 stools per day.</td>
<td>- The number of stools may be a less reliable indicator of severity.</td>
</tr>
<tr>
<td></td>
<td>- It is typically associated with 3-5 stools per day.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Treatment</td>
<td>If symptoms have resolved do not treat.</td>
<td>Vancomycin³ 125mg qds for 10-14 days.</td>
<td>Consult secondary care with a view to hospital admission.</td>
</tr>
<tr>
<td></td>
<td>• Metronidazole² 400mg tds for 10-14 days.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• If contra-indicated or no improvement after 7 days then Vancomycin³ 125mg qds for 10-14 days.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. Seek further advice from Microbiologists
2. Manufacturer advises: avoid high dose regimes in pregnancy
3. Manufacturer advises: avoid in pregnancy unless potential benefit outweighs risk
## How is it prevented?

### Underlying risk factors

<table>
<thead>
<tr>
<th>Risk factor</th>
<th>Key messages</th>
<th>Prevention strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age</strong></td>
<td>• Elderly and frail patients</td>
<td></td>
</tr>
<tr>
<td><strong>Co-morbidities</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Multiple co-morbidities are associated with a higher risk of CDI</strong></td>
<td>• Previous bowel surgery • Diabetes • Peptic ulcer disease • Hypertension • Solid malignancy.</td>
<td></td>
</tr>
<tr>
<td><strong>Residency in care homes</strong></td>
<td>• Patients in care homes - increased infection risk.</td>
<td>• Refer to IP&amp;C standards page (overleaf).</td>
</tr>
<tr>
<td><strong>Multiple admissions to acute/community hospitals</strong></td>
<td>• All admissions to hospital - increased infection risk.</td>
<td>• Use of available social care to avoid hospital admissions, as clinically appropriate.</td>
</tr>
</tbody>
</table>

### Trigger factors

<table>
<thead>
<tr>
<th>Trigger factor</th>
<th>Key messages</th>
<th>Prevention strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Antibiotic treatment</strong></td>
<td>• Cephalosporins and Quinolones - highest risk antibiotic groups. • 40% of 2010 Norfolk GP cases – Co Amoxiclav association. • Antibiotics prescribed up to three months prior to a positive CDI result can be a risk issue for the acquisition of CDI.</td>
<td>• Only prescribe antibiotics when evidence of bacterial infection. • Antibiotics started inappropriately should be stopped - no need to complete the course. • Short courses of antibiotics e.g. 3 days should be prescribed, where appropriate. • Trimethoprim should be first line antibiotic for UTIs. Refer to formulary.* • Guidance on allergies is covered in the formulary.*</td>
</tr>
<tr>
<td><strong>Proton Pump Inhibitors (PPIs) in association to antibiotics</strong></td>
<td>• Review PPI therapy regularly - is treatment still appropriate?</td>
<td>• Consider reducing/stopping PPIs if patient on antibiotics for the duration of antibiotic treatment.</td>
</tr>
<tr>
<td><strong>Other medications that could be associated with CDI</strong></td>
<td>• Non-steroidal anti-inflammatory drugs (NSAIDs), laxatives, aspirin, steroids, chemotherapy.</td>
<td>• Consider reducing/stopping these medications.</td>
</tr>
</tbody>
</table>

### Reference

Infection, Prevention and Control standards

Should be implemented during contact with suspected/confirmed cases of CDI

1. Prevent spread of CDI through patient isolation.
2. Effective hand washing before and after patient contact with soap and water (see Appendix A for 6 step technique).
3. Use of gloves and aprons during contact with CDI patient.
4. Dispose of gloves and aprons in clinical waste bin after use. (Ensure hands are washed after disposal).
5. Daily environmental cleaning of affected areas with chlorine-containing agent (1,000 ppm).
6. Start monitoring patient’s stool consistency and frequency with reference to the Bristol Stool Chart (see Appendix B).
7. Clothes should be changed daily. Soiled laundry should be washed separately. Laundry should be washed at the highest temperature the item can tolerate: 60ºC or above is preferable.
8. Healthy visitors are free to visit, but should not eat or drink food within contaminated area and must practice effective hand washing, as above.

Only use soap and water for hand washing when caring for patients with Clostridium difficile.

Alcohol gel (hand/skin sanitiser) is not effective against Clostridium difficile.
CDI risk and trigger factors

**Trigger factor:**
- Antibiotic treatment
  - High risk antibiotic groups:
    - Cephalosporins
    - Quinolones

**Underlying risk factors:**
- Age
- Co-morbidities
- Residency in care homes
- Hospital admissions

**Trigger factor:**
- Other medications:
  - NSAIDs
  - Laxatives
  - Aspirin
  - Steroids
  - Chemotherapy

**Trigger factor:**
- Proton Pump Inhibitors in association to antibiotics
Hand Hygiene Product Application Guide
Follow these simple steps when washing, sanitising or applying moisturising cream.

Social Hand Washing:
For routine hand washing, liquid soap and water is adequate, using the technique described.

Aseptic Hand Washing:
(Invasive Therapy)
After hand washing, apply sufficient skin sanitiser to completely cover the hands. Rub in until the alcohol has evaporated using the technique described.

Remember:
1. Keep nails short and clean
2. Wet hands first under running water
3. Hand wash for 10-15 seconds
4. Pay particular attention to thumbs, fingertips and between fingers
5. Rinse thoroughly under running water
6. Dry thoroughly
7. Apply conditioning cream regularly

Rub palm to palm
Palm to palm, fingers interlocked and around wrists
Palm to back of hand & round wrist
Finger tips and back of fingers into palm
Thumbs clasped in palm
Clasped fingers into palms

NB. When using hand cleansers, wet hands before applying washing agent.
Don't forget to wash wrists as well before rinsing and drying thoroughly.

Issued by Deb Ltd Tel: 01773 855100

Be the world’s leading away from home skin care system company

Alcohol gel (hand/skin sanitiser) is not effective against CDI

Clostridium difficile Infection: What to do and when

Appendix
### The Bristol Stool Form Scale (Bristol Stool Chart)

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type 1</td>
<td>Separate hard lumps, like nuts (hard to pass)</td>
</tr>
<tr>
<td>Type 2</td>
<td>Sausage-shaped but lumpy</td>
</tr>
<tr>
<td>Type 3</td>
<td>Like a sausage but with cracks on its surface</td>
</tr>
<tr>
<td>Type 4</td>
<td>Like a sausage or snake, smooth and soft</td>
</tr>
<tr>
<td>Type 5</td>
<td>Soft blobs with clear-cut edges (passed easily)</td>
</tr>
<tr>
<td>Type 6</td>
<td>Fluffy pieces, a mushy stool</td>
</tr>
<tr>
<td>Type 7</td>
<td>Watery, no solid pieces ENTIRELY LIQUID</td>
</tr>
</tbody>
</table>

Reproduced by kind permission of Dr K. W. Heaton, Reader in Medicine at the University of Bristol.
## Quick Reference Guide – Version 3

TREATMENT OF INFECTIONS IN PRIMARY CARE AND COMMUNITY HOSPITALS

- Doses: See BNF and children’s BNF
- Use upper end of dosage range to ensure adequate treatment and prevent emergence of resistance
- Antibiotics may interact with other commonly prescribed medication, particularly Warfarin, ensure INR is monitored if this is the case. Refer to BNF for all interactions. **BNF Interactions**

Refer to full formulary document for more details and uses in specific clinical situations

### Upper Respiratory Tract Infection

<table>
<thead>
<tr>
<th>CONDITION</th>
<th>NO OF DAYS TREATMENT</th>
<th>FIRST CHOICE</th>
<th>ALTERNATIVE Where First Choice Contra-Indicated</th>
<th>SECOND CHOICE If First Choice therapy has failed</th>
</tr>
</thead>
<tbody>
<tr>
<td>TONSILLITIS/PHARYNGITIS Where likely to be caused by Strep pyogenes <strong>CKS</strong></td>
<td>10</td>
<td>Penicillin V</td>
<td>Clarithromycin’s / Erythromycin</td>
<td></td>
</tr>
<tr>
<td>SINUSITIS Severe or persistent symptoms <strong>CKS-Sinusitis</strong></td>
<td>7</td>
<td>Amoxicillin</td>
<td>Clarithromycin’s / Erythromycin</td>
<td>Co-amoxiclav’s or Doxycycline’s</td>
</tr>
<tr>
<td>OTITIS MEDIA <strong>CKS</strong></td>
<td>5</td>
<td>Amoxicillin</td>
<td>Clarithromycin’s / Erythromycin</td>
<td>Co-amoxiclav’s</td>
</tr>
</tbody>
</table>

### Lower Respiratory Tract Infection

- **Acute Bronchitis**: Commonly viral – antibiotics not normally indicated **CKS**
- **Acute Exacerbation of COPD** **NICE, CKS**
  - Many cases are viral consider need for antibiotics **CKS**
    - 7 days Amoxicillin or Doxycycline’s
    - Doxycycline’s or Clarithromycin’s / Erythromycin
    - Co-Amoxiclav’s

For all patients with CAP, clinical judgement supported by the CRB65 score should be applied when deciding whether to treat at home or refer to hospital. CRB65=0 usually treat at home; 1-2 consider hospital; 3-4 urgent hospital admission

### Community Acquired Pneumonia (CAP)

- **Low severity CRB65=0 BTS**
  - 7 days Amoxicillin
  - Doxycycline’s or Clarithromycin’s
  - Review at 48 hours consider adding Clarithromycin’s if no improvement consider hospital review

Those patients referred to hospital with suspected severe life threatening CAP should be given antibiotics in the community prior to admission. Benzy/penicillin 1.2 g IV or Amoxicillin 1g orally plus Clarithromycin 500mg (if penicillin allergy give Clarithromycin 500mg)

Those patients referred with suspected high severity CAP who are unlikely to be treated within 6 hours should be given antibiotics in the community (as above).

### Seasonal Influenza-secondary bacterial pneumonia-1st line Doxycycline or Co-amoxiclav (Clarithromycins 2nd Line)

Swine flu (H1N1) please follow latest Department of Health/Health Protection advice

### Genito-Urinary Tract

#### UTI (uncomplicated in women)

- 3 days Trimethoprim** (where resistance not a problem) or Co-amoxiclav’s
- Nitrofurantoin***
- On Sensitivities determined from MSU

#### UTI (Complicated)

- 7 days Trimethoprim** (where resistance not a problem) or Co-amoxiclav’s
- Nitrofurantoin*** (or trimethoprim** on sensitivities)
- On sensitivities. If no response 5-7 days consider referral

**Note**: Complicated UTI = Structural abnormality, diabetics, recurrent infection, recent instrumentation, men

#### UTIs in pregnancy **CKS**

- 7-10 days Cephalaxin
- On sensitivities and consultant microbiologist advice

#### Acute Pyelonephritis **CKS**

- 14 days Co-amoxiclav’s
- Ciprofloxacin* (7 days)

**Note**: Asymptomatic bacteriuria occurs in 25% of women and 10% of men >65 years. In the presence of a catheter, antibiotics will not eradicate bacteria

#### Catheter- associated UTI

- No antibiotic if asymptomatic. If symptomatic on sensitivity

#### PROSTATITIS **CKS**

- 28 days Ciprofloxacin* / Ofloxacinc* Trimethoprim**
- On advice from
<table>
<thead>
<tr>
<th>Condition</th>
<th>Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pelvic Inflammatory Disease</strong></td>
<td>Metronidazole # + Doxycycline* Metronidazole # + Clomixin* Refer to GUM if no response</td>
</tr>
<tr>
<td><strong>Genital Chlamydia</strong></td>
<td>Refer to GUM Clinic Doxycycline* Azithromycin# Ethromycin if pregnant Refer to GUM Clinic</td>
</tr>
<tr>
<td><strong>Genital Candidiasis</strong></td>
<td>Clotrimazole 5g 10% cream or 50mg* pessary. Clotrimazole Cream 1% external Nystatin vaginal cream Fluconazole 150mg orally</td>
</tr>
<tr>
<td><strong>Bacterial Vaginosis</strong></td>
<td>Metronidazole # oral Metronidazole Vag Gel 0.75% Clindamycin 2% vaginal cream</td>
</tr>
</tbody>
</table>

### Skin/Soft Tissue Infections

<table>
<thead>
<tr>
<th>Condition</th>
<th>Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cellulitis</strong></td>
<td>Flucloxacillin + Penicillin V Claranthomycin / Ethromycin Refer to hospital if no response</td>
</tr>
<tr>
<td><strong>Leg Ulcers</strong></td>
<td>Routine swabs are not recommended. Antibiotics are only indicated if cellulitis present (see NHS Norfolk Woundcare Guidelines and Formulary) Diabetic leg ulcers - refer for specialist opinion.</td>
</tr>
<tr>
<td><strong>Animal/Human Bites</strong></td>
<td>Antibiotic prophylaxis advised, especially if &gt;50 years, puncture or hard wound. Assess rabies risk. For human bite assess HIV/Hepatitis risk</td>
</tr>
<tr>
<td></td>
<td>Co-amoxiclav Metronidazole # + Doxycycline*</td>
</tr>
</tbody>
</table>

### Dermatophyte Infections of the nails

<table>
<thead>
<tr>
<th>Condition</th>
<th>Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MRSA Colonisation</strong></td>
<td>Mupirocin nasal ointment: Apply to nares tids for 5 days + Octenisan or Hibiscrub washes od x 5 days</td>
</tr>
<tr>
<td><strong>MRSA Infection</strong></td>
<td>Treatment choice and duration will depend on site, severity and sensitivity For soft tissue: Doxycycline* For UTI: Trimethoprim*/ Nitrofurantoin***</td>
</tr>
<tr>
<td>i.e. patient has signs of sepsis; fever, raised white cell count and CRP</td>
<td>On advice from consultant microbiologist</td>
</tr>
</tbody>
</table>

### Gastrointestinal Tract

**Eradication of Helicobacter pylori** see gastro-intestinal section of PCT Formulary

<table>
<thead>
<tr>
<th>Condition</th>
<th>Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Clostridium difficile</strong></td>
<td>Fluid replacement essential. Antibiotic therapy not usually indicated. Initiate only on advice of microbiologist. Stop current antibiotics if possible. If cephalosporin, clindamycin or quinolone stop immediately. Stop PPIs if possible. Stop ant motility agents.</td>
</tr>
<tr>
<td>Dophi2009</td>
<td>Metronidazole 400mg tids for 10-14 days if Contra indicated or no improvement after 7 days then Vancomycin 125mg qds for 10-14 days</td>
</tr>
<tr>
<td><strong>Non Severe (mild to moderate) 1/2nd episode</strong></td>
<td>Vancomycin 125mg qds for 14 days</td>
</tr>
<tr>
<td><strong>Non Severe 3rd or subsequent episodes</strong></td>
<td>Vancomycin 125mg qds for 14 days</td>
</tr>
<tr>
<td><strong>Soro CDI</strong></td>
<td>WCC&gt;15, acute rising creatinine, T&gt;38.5 and/or signs/symptoms of colitis consult Secondary care</td>
</tr>
</tbody>
</table>

### Viral Infections

<table>
<thead>
<tr>
<th>Condition</th>
<th>Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Herpes Zoster (Shingles)</strong></td>
<td>Aciclovir# Famiciclovir#</td>
</tr>
<tr>
<td>Cks</td>
<td>Start within 72 hours of onset of rash</td>
</tr>
</tbody>
</table>

**Shingles:** If pregnant/inmmunocompromised seek advice. Treatment should be considered in all patients who present within 72 hours of onset of rash, particularly in those who have had a previous attack and/or suffered post herpetic neuralgia. Always treat if active ophthalmic, or cranial nerve involvement.

**Chicken pox:** Not normally treated but if adult patient, or pregnant or immunocompromised seek specialist advice from virology or microbiology.

### Parasitic Infections

<table>
<thead>
<tr>
<th>Condition</th>
<th>Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Threadworm</strong></td>
<td>Mebendazole# (Piperazine in under 2 years) Piperazone** repeat after 14 days</td>
</tr>
<tr>
<td><strong>Meningococcal Disease</strong></td>
<td>IM Benzyl penicillin (high dose) Cefotaxime (only if allergic to penicillin or suspect other causes of bacterial meningitis) Transfer immediately to hospital</td>
</tr>
</tbody>
</table>

# Manufacturer advises avoid high dose regimes in pregnancy * Avoid in children and pregnancy **Avoid in first trimester of pregnancy ***Avoid in late pregnancy $ manufacturer advises avoid unless potential benefit outweighs risk.

---

**NHS Norfolk & NC & C Antibiotics Formulary Quick Reference Guide Updated Nov 2009**

**Update due Nov 2011**

**Clostridium difficile Infection: What to do and when**
## Other causes of non-infective diarrhoea

This is not an exhaustive list

<table>
<thead>
<tr>
<th>Medications that could cause diarrhoea</th>
<th>Co-morbidities that could cause diarrhoea</th>
<th>Other possible causes of diarrhoea</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Acarbose</td>
<td>1. Inflammatory bowel disease</td>
<td>1. Nasogastric feeding</td>
</tr>
<tr>
<td>5. Bile salts</td>
<td>5. Diverticular disease</td>
<td></td>
</tr>
<tr>
<td>6. Colchicine</td>
<td>6. Ischaemic colitis</td>
<td></td>
</tr>
<tr>
<td>7. Dipyridamole</td>
<td>7. Gastrointestinal lymphoma</td>
<td></td>
</tr>
<tr>
<td>8. Gold Preparations</td>
<td>8. Carcinoma of the colon (change in bowel habit)</td>
<td></td>
</tr>
<tr>
<td>10. Laxatives</td>
<td>10. Gut resection</td>
<td></td>
</tr>
<tr>
<td>11. Leflunomide</td>
<td>11. Bile acid malabsorption</td>
<td></td>
</tr>
<tr>
<td>12. Magnesium Preparations e.g. antacids</td>
<td>12. Faecal impaction and overflow</td>
<td></td>
</tr>
<tr>
<td>14. Misoprostol</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15. NSAIDS e.g. aspirin, ibuprofen</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16. Olsalazine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>17. Orlistat</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18. PPIs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>19. Ticlopidine</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
What is clostridium difficile?
Clostridium difficile (C. diff) is a type of bacteria found in the gut (digestive system) of up to three per cent of healthy adults and 66 per cent of infants. It rarely causes problems in healthy adults and children because the normal bacteria in the gut keeps it under control.

What type of illness can it cause?
The effects of C. diff can vary from no symptoms to diarrhoea of varying severity and, more unusually, to severe inflammation of the bowel. Other symptoms can include: fever, loss of appetite, nausea and abdominal pain or tenderness.

How do you catch it?
C. diff can make you ill when certain antibiotics and medications disturb the balance of bacteria in the gut. It can also spread from person to person because those with C. diff associated diarrhoea will pass the bacteria out in their stool (faeces) as spores. Spores can then live in the environment and on clothing and can also be transferred on hands. The organism can be spread from hand to mouth and affect vulnerable people.

Who is most at risk of getting clostridium difficile infection?
Patients over 65, people with an underlying illness, and those who have recently taken antibiotics are at most risk.

How can I prevent clostridium difficile?
You can stop the spread of C. diff by making sure you always wash your hands with soap and water on entering and leaving hospital wards or any other healthcare setting, such as a care home. Hand hygiene is one of the most important ways to prevent infections. It is important to remember that alcohol gel is not effective against C. diff. Try to treat minor illnesses without using antibiotics. Ask your doctor for them only when really necessary, as many infections go away without using antibiotics. A good healthy diet is vitally important to help your body fight infections.

What will happen to me if I get clostridium difficile?
If you think you or someone you are caring for may have a C. diff infection you must contact your GP urgently. You will be asked for a specimen of your stool to be tested; however your stool will only be tested if it is liquid.

If C. diff is suspected or confirmed by your GP, any medication you have been taking will be reviewed and may be stopped. Sometimes this is enough to sort out the problem. However, if your symptoms do not get better within a few days or you have severe symptoms, you will be given antibiotics that are used to treat C. diff infections.

Doctors and healthcare workers will ask about your symptoms. Please don’t be embarrassed, as it’s important to check your progress.

It is vital to drink plenty of fluids. It is also important to eat well. If you are losing weight or eating small portions, speak to your doctor. You may need to have extra snacks or special nutritional drinks.

Keep your fingernails short and clean and wash your hands after using the toilet and before preparing or eating food. Hygiene is important in treating C. diff infections. You will also need to shower or bath regularly and change your clothes every day.

Keep the home clean, particularly toilet areas and bedding. Any visiting healthcare staff will wear gloves and aprons and wash their hands before and after treating you. This helps to prevent the spread of infection to others – please remind us to clean our hands if we forget.

Can I have visitors?
Yes. Healthy people are at very little risk of getting C. diff or associated infection while visiting. However, if your visitors are frail or unwell they may need to wait until you are better.

It is not advisable for visitors to eat and drink food you have prepared, and they should wash their hands with soap and water before leaving. Food and bowls of fruit should not be left out as they can become contaminated.

Laundry
Your clothes should be changed daily and soiled laundry should be washed separately. Wash laundry at the highest temperature the item can tolerate; 60ºC or above, if possible.
Can I stay at home with *Clostridium difficile*?
Providing the doctor is not concerned about your condition you can stay at home. However, if you become very unwell and/or cannot manage at home you may need to be transferred to hospital for specialist treatment.

Can *Clostridium difficile* come back?
Some patients do get diarrhoea again. Please contact your GP if this happens.

Where can I get more information?
Your nurses and doctors can answer your questions or you can contact an infection control nurse on 01603 257119.
You can also find information on the NHS Choices website at: www.nhs.uk or The Health Protection Agency website at: www.hpa.org.uk

This information has been adapted from a leaflet produced by Infection Prevention and Control, NHS Bedfordshire, with their kind permission.