Empirical First Line Antibiotic Policy for Primary Care

CORE AIMS

To provide a simple, evidence based approach to the treatment of common infections in primary care

To promote the safe, effective and economic use of antibiotics

To minimise the emergence of bacterial resistance in the community

To minimise the risk of Clostridium difficile infection

To address the high levels of antibiotic prescribing in NHSL.

Current Evidence on NHSL Antibiotic Prescribing

Scottish Antimicrobial Prescribing Group: Primary Care Prescribing Indicators Annual Report is accessible from the SMC/SAPG website.

Progress

Since 2008 NHSL has:

- Demonstrated a year on year reduction in use of antibiotics associated with C. difficile
- Demonstrated a year on year increase in the use of recommended narrow spectrum antibiotics
- Consistently met the national HEAT target for seasonal variation in quinolone use (this target has been superseded, see below)

Areas to address:

- NHSL remains the highest overall user of antimicrobials of all NHS Boards in Scotland.
- The new national HEAT target indicator from 2013/14 is based on total quantity of antibiotics prescribed.
- Prescribers out with the recommended target will need to show reductions in antibiotic prescribing to comply with HEAT targets.

Further information is available at:


Principles of Treatment

1. This guidance is based on the best available evidence but its application must be modified by professional judgement. Further information is available in the HPA Guidance on the management of infection in primary care.

2. Prescribe an antibiotic only when there is likely to be a clear clinical benefit.

3. Do not prescribe an antibiotic for viral sore throats, simple coughs, colds or upper respiratory tract infections.

4. Lower threshold for antibiotics in immunocompromised or those with multiple morbidities.

5. Limit prescribing over the telephone to exceptional cases.

6. Use simple generic antibiotics first whenever possible.

7. The use of new and more expensive antibiotics is rarely appropriate when standard and less expensive antibiotics remain effective.

8. C. difficile infection is associated with cephalosporins, co-amoxiclav, quinolones, clindamycin and use of these antibiotics should be restricted to the specific indications within the policy.

9. Prolonged antibiotic therapy increases the risk of adverse events, including C. difficile.

10. Prescribing lower than recommended doses encourages antibiotic resistance.

11. Avoid widespread use of topical antibiotics (especially those agents also available as systemic preparations).

12. In pregnant patients check the BNF for contraindicated antibiotics.


14. Clarithromycin is an acceptable alternative in those who are unable to tolerate erythromycin because of side effects but be aware of drug interactions.

15. Patients on simvastatin should not receive concurrent treatment with clarithromycin or erythromycin. Patients on atorvastatin >20mg/day should not receive concurrent treatment with clarithromycin. Options are to stop statin or change to pravastatin for duration of antibiotic course or use an alternative antibiotic.

16. In chronic kidney disease doses may have to be reduced.

17. Where a "best guess" therapy has failed or special circumstances exist, microbiological advice can be obtained from the Consultant Microbiologist (via Monklands, Wishaw or Hairmyres Switchboards).

Note: Doses are oral and for adults unless otherwise stated. Please refer to BNF for further information.

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## Upper Respiratory Tract Infections

Consider 48h delayed antibiotic prescriptions.  

### Influenza

**ILLNESS:** Influenza  

**COMMENTS:** Annual vaccination is essential for all those at risk from influenza. When influenza is circulating in the community post-exposure prophylaxis or treatment is recommended for at risk patients who are not protected by vaccine. Oseltamivir should be started within 48 hours of exposure or symptoms and Zanamivir should be started within 36 hours. At risk patients include those aged over 65 years or adults and children with chronic respiratory disease, chronic heart disease, chronic renal disease, chronic liver disease, chronic neurological disease, immunosuppression or diabetes mellitus. Pregnant patients may also be considered at risk dependant on the predominant seasonal strain of influenza.

**DRUG:** Oseltamivir or Zanamivir  

**DOSE:** 
- **Adult treatment dose:**  
  - 75mg twice daily  
  - 10mg (2 inhalations by diskhaler) twice daily—  

**DURATION:** 5 days  

**Paediatric doses:** consult current literature

### Acute Sore Throat (Tonsillitis)

**ILLNESS:** Acute Sore Throat (Tonsillitis)  

**COMMENTS:** Avoid antibiotics. The majority of sore throats are viral and most patients do not benefit from antibiotics.  

Patients with 3 of 4 Centor criteria (history of fever, purulent tonsils, cervical lymphadenopathy and absence of cough) may benefit more from antibiotics.  

Antibiotics to prevent Quinsy NNT>4000  

Antibiotics to prevent Otitis Media NNT 200

**DRUG:** 

- **first line:**  
  - Phenoxybenzamidine (doses may be doubled in severe infections, except neonate)  

**DOSE:** 
- **Adult:** 250-500 mg four times daily  
- **Child:**  
  - Neonate: 12.5 mg/kg four times daily  
  - 1 month-2 years: 125mg four times daily  
  - 2-8 years: 250 mg four times daily  
  - 8-18 years: 250-500mg four times daily

**DURATION:** 5 days

**OR**  

- **If intolerant to erythromycin:**  
  - Clarithromycin

**DOSE:** 
- **Adult:** 250-500 mg twice daily  
- **Child:**  
  - Body weight <8kg: 7.5mg/kg twice daily  
  - Body weight 8-11kg: 62.5mg twice daily  
  - Body weight 12-19kg: 125 mg twice daily  
  - Body weight 20-29kg: 187.5 mg twice daily  
  - Body weight 30-60kg: 250 mg twice daily  
  - Child 12-18 years: 250 mg twice daily

**DURATION:** 5 days

### Acute Otitis Media (child doses)

**ILLNESS:** Acute Otitis Media

**COMMENTS:** Optimise analgesia. Avoid antibiotics as many are viral.  

Resolves in 80% without antibiotics.  

Poor outcome unlikely if no vomiting or temp <38.5°C.  

Antibiotics do not reduce pain in first 24 hours, subsequent attacks or deafness.  

Consider 2 or 3 days delayed or immediate antibiotics for pain relief if:  
- <2yrs with bilateral AOM  
- All ages with otorrhoea

**DRUG:** 

- **first line:**  
  - Amoxicillin  

**DOSE:** 
- **Child:**  
  - One month – 1yr: 125 mg three times daily  
  - 1 yrs – 5 yrs: 250 mg three times daily  
  - 5 yrs – 18 yrs: 500 mg three times daily

**DURATION:** 5 days

**OR**  

- **If allergic to penicillin:**  
  - Erythromycin

**DOSE:** 
- **Child:**  
  - Neonate: 12.5 mg/kg four times daily  
  - 1 month-2 years: 125mg four times daily  
  - 2-8 years: 250 mg four times daily  
  - 8-18 years: 250-500mg four times daily

**DURATION:** 5 days

**OR**  

- **If intolerant to erythromycin:**  
  - Clarithromycin

**DOSE:** 
- **Child:**  
  - Body weight <8kg: 7.5mg/kg twice daily  
  - Body weight 8-11kg: 62.5mg twice daily  
  - Body weight 12-19kg: 125 mg twice daily  
  - Body weight 20-29kg: 187.5 mg twice daily  
  - Body weight 30-60kg: 250 mg twice daily  
  - Child 12-18 years: 250 mg twice daily

**DURATION:** 5 days

- **second line:**  
  - Co-amoxiclav

**DOSE:** 
- **Child:**  
  - <1yr: 0.25ml/kg of 125/31 suspension three times daily  
  - 1-6 yrs: 125/31 mg three times daily  
  - 6-12 yrs: 250/62 mg three times daily  
  - 12-18 yrs: 250/125mg three times daily

**DURATION:** 5 days

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Consider 48h delayed antibiotic prescriptions.

## Upper Respiratory Tract Infections

**Acute Rhino sinusitis**
- Avoid antibiotics as 80% resolve in 14 days without antibiotics.
- Optimise analgesia.

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<thead>
<tr>
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<th>DOSE</th>
<th>DURATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>A-</td>
<td>amoxicillin</td>
<td>Adult: 500 mg three times daily</td>
<td>5-7 days</td>
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<tr>
<td></td>
<td></td>
<td>Child: 125 mg three times daily</td>
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<td></td>
<td></td>
<td>5 yrs – 18 yrs 250 mg three times daily</td>
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<tr>
<td>OR</td>
<td>erythromycin</td>
<td>Adult: 250 mg four times daily or 500 mg twice daily</td>
<td>5-7 days</td>
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<tr>
<td></td>
<td></td>
<td>Child: Neonate 12.5 mg/kg four times daily</td>
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<tr>
<td></td>
<td></td>
<td>1 month-2 years 125mg four times daily</td>
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<td>2-8 years 250 mg four times daily</td>
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<td></td>
<td></td>
<td>8-18 years 250 –500mg four times daily</td>
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<tr>
<td>OR</td>
<td>clarithromycin</td>
<td>Adult: 250-500 mg twice daily</td>
<td>5-7 days</td>
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<td></td>
<td></td>
<td>Child: Body weight &lt;8kg 7.5mg/kg twice daily</td>
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<tr>
<td></td>
<td></td>
<td>Body weight 8-11kg 62.5mg twice daily</td>
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<td>Body weight 20-29kg 187.5 mg twice daily</td>
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<td></td>
<td>Body weight 30-40kg 250 mg twice daily</td>
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<tr>
<td></td>
<td></td>
<td>Child 12-18 years 250 mg twice daily</td>
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</table>

**Second line in adults**
- doxycycline

<table>
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<th>DURATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>▲</td>
<td>co-amoxiclav</td>
<td>Adult: 500/125 mg three times daily</td>
<td>5-7 days</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Child: &lt;1yr 0.25ml/kg of 125/31 suspension three times daily</td>
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<tr>
<td></td>
<td></td>
<td>1-6 yrs 125/31 mg three times daily</td>
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<tr>
<td></td>
<td></td>
<td>6-12 yrs 250/62 mg three times daily</td>
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<tr>
<td></td>
<td></td>
<td>12- 18 yrs 250/125mg three times daily</td>
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</tbody>
</table>

**In persistent infection** use an agent with activity against anaerobes

BNF recommendation is to treat for 5 days (or longer if seriously ill). ▲ Doxycycline is contraindicated in children, pregnancy and breast feeding.

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**LOWER RESPIRATORY TRACT INFECTIONS**

**Note:** Low doses of penicillin's are more likely to select out resistance. First generation cephalosporins such as "cefalexin" are unsuitable in lower respiratory tract infections. Ciprofloxacin has poor activity against pneumococci and should not be used first. MRSA in sputum almost always is a result of colonisation and does not require antibiotic therapy in the community.

#### Acute Exacerbation of COPD
- Treat exacerbations with antibiotics if purulent sputum and increased shortness of breath or increased sputum volume.
- **Drug:** amoxicillin
- **Dose:** 500 mg three times daily
- **Duration:** 5 days
- **If allergic to penicillin:** clarithromycin
- **Dose:** 500mg twice daily
- **Duration:** 5 days
- **If clinical failure to first line antibiotics:** doxycycline
- **Dose:** 200mg then 100mg daily
- **Duration:** 5 days

#### Community acquired pneumonia
- **Adult**
  - Use CRB 65 score:
    - **Confusion (AMT<8)**
    - **RR >30/min**
    - **BP systolic <90 or diastolic ≤ 60**
  - **Score 0:** suitable for home treatment.
  - **Score 1-2:** hospital referral
  - **Score 3-4:** urgent hospital admission.
  - Give IM benzylpenicillin or amoxicillin 1G if delayed admission or condition life threatening.
  - **CRB65=0**
    - amoxicillin
    - **Dose:** 500 mg - 1g three times daily
    - **Duration:** 7 days
    - **If allergic to penicillin:** clarithromycin or doxycycline
    - **Dose:** 200mg then 100mg daily
    - **Duration:** 7 days
  - **CRB65=1** and at home
    - amoxicillin + clarithromycin or doxycycline alone
    - **Dose:** 500 mg - 1g three times daily
    - **Duration:** 7-10 days
    - **If allergic to penicillin:** clarithromycin
    - **Dose:** 500 mg twice daily
    - **Duration:** 7-10 days
    - **If allergic to penicillin:** doxycycline
    - **Dose:** 200mg then 100mg daily
    - **Duration:** 7-10 days

- **Child**
  - **6 months-5 years or Streptococcus pneumoniae suspected**
    - amoxicillin
    - **Dose:**
      - Child: One month – 1yr: 125 mg three times daily
      - 1 yr – 5 yrs: 250 mg three times daily
      - 5 yrs – 18 yrs: 500 mg three times daily
    - **Duration:** 7-10 days
  - **5-18 years or allergic to penicillin**
    - clarithromycin
    - **Dose:**
      - Child: Body weight <6kg: 7.5mg/kg twice daily
      - Body weight 6-11kg: 12.5 mg/kg twice daily
      - Body weight 12-19kg: 17.5 mg/kg twice daily
      - Body weight 20-40kg: 17.5 mg/kg twice daily
      - Child 12-18 years: 250 mg twice daily
    - **Duration:** 7-10 days
  - **second line co-amoxiclav**
    - **Dose:**
      - Child: <1yr: 0.25ml/kg of 125/31 suspension three times daily
      - 1 - 6 yrs: 125/31 mg three times daily
      - 6 - 12 yrs: 250/62 mg three times daily
      - 12- 18 yrs: 250/125mg three times daily
    - **Duration:** 7-10 days

#### MENINGITIS and INVASIVE MENINGOCOCCAL DISEASE

#### Suspected meningococcal disease
- **Comments:** Transfer all patients to hospital immediately.
- If bacterial meningitis and especially if meningococcal disease is suspected give benzylpenicillin. [Alternative: cefotaxime (adults and children) or ceftriaxone (adults only) IV or IM]. If history of true penicillin related anaphylaxis do not give pre-hospital antibiotics. Advice is available from the Infectious Diseases Physician (Monklands) or Paediatrician (Wishaw) on-call.
- **Drug:** benzylpenicillin IV or IM
- **Dose:**
  - Adults and children >10 yr: 1200 mg
  - Children 1-5yr: 600 mg
  - Children <1yr: 300 mg
- **If penicillin allergic:**
  - Cefotaxime or ceftriaxone IV or IM
  - **Dose:**
    - Adults and child over 12years: 1000mg
    - Child under 12years: 50mg/kg

#### Prevention of secondary case of meningococcal infection
- **Comments:** Only prescribe following advice from Consultant in Public Health Medicine. Out of Hours: contact on-call Public Health doctor via Monklands switchboard 9 am - 5 pm: ☎01698 858232
- **DURATION:** 9 am - 5 pm: ☎01698 858232
- **Out of Hours:** contact on-call Public Health doctor via Monklands switchboard ☎01236 748748

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## Urinary Tract Infections

In adults the diagnosis of UTI is primarily based on symptoms and signs. In elderly women and men (>65 years), do not treat asymptomatic bacteriuria; it occurs in 25% of women and 10% of men and is not associated with increased morbidity. Amoxicillin resistance is common, therefore ONLY use if culture confirms susceptibility. Quinolones should not be used for empirical treatment of LUTI. In the presence of a catheter antibiotics will not eradicate bacteriuria; only treat if systematically unwell or UUTI likely. Do not use prophylactic antibiotics for catheter change unless history of catheter-change associated UTI or trauma. Nitrofurantoin* may be used with caution if GFR: 40-60ml/min, it is ineffective and contraindicated if GFR<40ml/min.

### Lower UTI

<table>
<thead>
<tr>
<th>Gender</th>
<th>Description</th>
<th>Treatment</th>
<th>Initial Antibiotic</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Women</td>
<td>uncomplicated, symptomatic, no fever or flank pain. Non-pregnant women.</td>
<td>Treatment of UTI is based on symptoms. Severe ≥ 3 symptoms: treat. Mild ≤ 2 symptoms: use dipstick. Nitrite &amp; blood/leucocytes has 92% PPV; -ve nitrite, leucocytes and blood has 76% NPV.</td>
<td>trimethoprim* OR nitrofurantoin* OR ciprofloxacin</td>
<td>200mg twice daily 50mg four times daily 200mg twice daily 50-100mg four times daily 500mg twice daily</td>
</tr>
<tr>
<td>Men</td>
<td>Prostatic involvement is common and if considered likely ciprofloxacin for 14-28 days is the treatment of choice. Urine should be sent for culture.</td>
<td>trimethoprim OR nitrofurantoin* OR ciprofloxacin</td>
<td>200mg twice daily 50-100mg four times daily 500mg twice daily</td>
<td>7 days 7 days 7 days</td>
</tr>
<tr>
<td><strong>-UTI</strong></td>
<td><strong>Pyelonephritis</strong></td>
<td>Urine should always be sent for culture. Admit if patient particularly unwell or if no response within 24 hours.</td>
<td>ciprofloxacin OR amoxiclav</td>
<td>500mg twice daily 500/125 mg three times daily</td>
</tr>
<tr>
<td><strong>-UTI</strong></td>
<td><strong>Pyelonephritis</strong></td>
<td>Refer to urologist</td>
<td>Ciprofloxacin</td>
<td>500mg twice daily</td>
</tr>
<tr>
<td><strong>-UTI</strong></td>
<td><strong>Patients with symptomatic bacteriuria</strong></td>
<td>CSU should be sent and the catheter changed before starting antibiotics. Initial antibiotic regimens as outlined above for LUTI and UUTI. Change antibiotics according to susceptibility of organism isolated.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>UTI</strong></td>
<td><strong>Pregnancy</strong></td>
<td>Asymptomatic bacteriuria in pregnancy should be treated. Send MSU. Short term use of nitrofurantoin is unlikely to cause problems to foetus. Discuss alternatives with Consultant Microbiologist or Obstetrician.</td>
<td>nitrofurantoin* OR cefalexin</td>
<td>50-100mg four times daily 500mg twice daily</td>
</tr>
<tr>
<td><strong>UTI</strong></td>
<td><strong>Recurrent women ≥3 episodes/yr</strong></td>
<td>Post coital antibiotic prophylaxis is as effective as prophylaxis taken nightly. Women with recurrent UTI’s should take cranberry products. If nightly prophylaxis is required it should be stopped after 6-12 months.</td>
<td>nitrofurantoin* OR Trimethoprim</td>
<td>50mg daily 100mg daily</td>
</tr>
<tr>
<td><strong>UTI in Children</strong></td>
<td><strong>Scottish Paediatric Renal Urology Network</strong></td>
<td>Perform dipstick and send clean catch MS urine for culture. Refer children with a high risk of serious illness and/or children younger than 6 months to hospital for assessment and treatment. At any age start treatment if UTI suspected and nitrite is positive. If ≤3 years and symptoms consistent with UTI always start antibiotic pending culture result. If over 3 years start treatment pending culture if leucocyte positive and good clinical evidence of UTI. In any child with an abnormal renal tract or past UUTI start treatment pending culture results.</td>
<td>Trimethoprim OR nitrofurantoin OR for UUTI co-amoxiclav</td>
<td>600mg 50mg twice daily 200mg twice daily 750 micrograms/kg four times daily</td>
</tr>
<tr>
<td><strong>UTI in Children</strong></td>
<td><strong>Scottish Paediatric Renal Urology Network</strong></td>
<td>Child: 6wks-6months seek advice 6months-6yr 100mg twice daily 12-18 yrs 200mg twice daily &gt;3months 750 micrograms/kg four times daily</td>
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<th>DURATION</th>
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</thead>
<tbody>
<tr>
<td><strong>GASTRO-INTESTINAL TRACT INFECTIONS</strong></td>
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</tr>
<tr>
<td><strong>Eradication of Helicobacter pylori</strong></td>
<td>See also Lanarkshire Guidelines for Management of Symptomatic Dyspepsia. In children treatment to eradicate <em>H. pylori</em> infection should be initiated under specialist supervision.</td>
<td>amoxicillin clarithromycin* omeprazole if allergic to penicillin metronidazole (should replace amoxicillin)</td>
<td>1 g twice daily 500mg twice daily 20mg twice daily 400mg twice daily</td>
<td>All for 7 days</td>
</tr>
<tr>
<td><strong>Gastroenteritis</strong></td>
<td>Send a stool sample in all patients with bloody diarrhoea, foreign travel or persistent symptoms. Fluid replacement is essential. Antibiotics are not usually indicated however they should be considered in patients who are systemically unwell. In <em>E. coli</em> O157 infection antibiotics are associated with an increased risk of the Haemolytic Uræmic Syndrome and therefore they are not recommended. Children with acute bloody diarrhoea should be referred for assessment.</td>
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<tr>
<td><strong>Threadworms</strong></td>
<td>Confirm diagnosis. Treat all household contacts at the same time. Advise hygiene measures for 2 weeks (hand hygiene, pants at night, morning shower) PLUS wash sleepwear, bed linen, dust and vacuum on day one. Avoid mebendazole in pregnancy and piperazine in the first trimester – strict hygiene measures should be effective in eradicating worms without drug treatment.</td>
<td>mebendazole OR Piperazine</td>
<td>6months – 18years 100mg stat 3mths – 1yr 2.5ml spoon 1-6 yrs 5ml spoon 6-18yrs 1 sachet</td>
<td>As a single dose can be repeated after 14 days. All as a single dose in the morning. Repeat after 14 days.</td>
</tr>
<tr>
<td><strong>Clostridium difficile infection</strong> <a href="http://www.documents.hps.scot.nhs.uk/about-hps/hpn/clostridium-difficile-infection-guidelines.pdf">http://www.documents.hps.scot.nhs.uk/about-hps/hpn/clostridium-difficile-infection-guidelines.pdf</a></td>
<td>Definition: Loose watery stools of increased frequency and <em>C. difficile</em> toxin + in stool. Stop/simplify concomitant antibiotics and gastric acid suppressive therapy if possible. Stop antimotility drugs. If severe or recurrent discuss with microbiologist or ID consultant</td>
<td>metronidazole Alternative if severe or not improved after 5 days of metronidazole or 1st relapse Vancomycin</td>
<td>400mg three times daily 125mg four times daily</td>
<td>10 days</td>
</tr>
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**GENITAL TRACT INFECTIONS**

**Note:** Refer patients who you are not able to manage to the sexual health clinic for investigation, treatment and partner notification.

**Appointment Line:** 0845 618 7191

**GUM Health Adviser:** 01236 712464 (Based at Coathill Hospital)

More info at [www.lanarksiresexualhealth.org](http://www.lanarksiresexualhealth.org)

#### Syphilis
Syphilis infections are increasing throughout the UK. Consider if new genital lesion(s) or widespread skin rash. Send serum to microbiology. Refer all patients with positive syphilis blood tests to GUM

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<td></td>
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<td></td>
</tr>
</tbody>
</table>

#### Genital candidiasis
All topical and oral azoles give 80-95% cure.

In pregnancy and breast feeding avoid oral azoles.

<table>
<thead>
<tr>
<th>ILLNESS</th>
<th>COMMENTS</th>
<th>DRUG</th>
<th>DOSE</th>
<th>DURATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Genital candidiasis</td>
<td></td>
<td>clotrimazole combi/vaginal cream OR fluconazole</td>
<td>500mg pessary plus *2% cream *effect on latex condoms and diaphragms not known. 150mg stat</td>
<td>single dose 1 day</td>
</tr>
</tbody>
</table>

#### Gonorrhoea
Gonococcal infection now often presents with less discharge and pain and swelling may be the dominant symptoms. Test of cure 2 weeks after treatment is recommended for all cases.

<table>
<thead>
<tr>
<th>ILLNESS</th>
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<th>DRUG</th>
<th>DOSE</th>
<th>DURATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gonorrhoea</td>
<td></td>
<td>ceftriaxone + azithromycin</td>
<td>500 mg IM 1g</td>
<td>single dose single dose</td>
</tr>
</tbody>
</table>

#### Bacterial vaginosis
A 7 day course of oral metronidazole is slightly more effective than 2g stat.

Avoid 2g stat dose in pregnancy.

Topical treatment gives similar cure rates but is more expensive.

<table>
<thead>
<tr>
<th>ILLNESS</th>
<th>COMMENTS</th>
<th>DRUG</th>
<th>DOSE</th>
<th>DURATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bacterial vaginosis</td>
<td></td>
<td>metronidazole ** OR Clindamycin 2% cream</td>
<td>400 mg twice daily 5g applicatorful at night</td>
<td>7 days 7 days</td>
</tr>
</tbody>
</table>

#### Chlamydia trachomatis
Partners should be screened and treated whether Chlamydia positive or not. Sex should be avoided until both partners are treated and for 1 week thereafter.

Test of cure/reinfection should be performed a minimum of 5 weeks after the initiation of therapy (6 weeks after azithromycin) to avoid false positive results. Test of cure should be routine in pregnancy.

Tetracylines e.g doxycycline, are contraindicated in pregnancy. Azithromycin is recommended for uncomplicated chlamydial infection in pregnancy following discussion of balance of risks and benefits with patient.

<table>
<thead>
<tr>
<th>ILLNESS</th>
<th>COMMENTS</th>
<th>DRUG</th>
<th>DOSE</th>
<th>DURATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chlamydia trachomatis</td>
<td><a href="http://www.sign.ac.uk/pdf/sign109.pdf">http://www.sign.ac.uk/pdf/sign109.pdf</a></td>
<td>azithromycin ** OR doxycycline *** in pregnancy azithromycin (unlicensed) OR erythromycin OR Amoxicillin</td>
<td>1g (1hr before or 2hrs after food) 1g (see above) 500 mg twice daily 7 days</td>
<td>Single dose 14 days 7 days</td>
</tr>
</tbody>
</table>

#### Trichonomiasis
Refer to GUM. Treat partners simultaneously.

In pregnancy avoid 2g single dose metronidazole.

<table>
<thead>
<tr>
<th>ILLNESS</th>
<th>COMMENTS</th>
<th>DRUG</th>
<th>DOSE</th>
<th>DURATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trichonomiasis</td>
<td></td>
<td>metronidazole **</td>
<td>400 mg twice daily OR 2g</td>
<td>5-7 days single dose</td>
</tr>
</tbody>
</table>

#### Pelvic Inflammatory Disease (PID)
**Essential to test for N. gonorrhoea and chlamydia**

Refer patients and contacts to GUM Clinic.

Partners should have empirical treatment with azithromycin. If the test for gonorrhoea is positive then additional treatment is required and the GUM dept should be contacted for advice. Sex should be avoided until both partners are treated.

Tetracylines e.g doxycycline, are contraindicated in pregnancy. Azithromycin is recommended for uncomplicated chlamydial infection in pregnancy following discussion of balance of risks and benefits with patient.

<table>
<thead>
<tr>
<th>ILLNESS</th>
<th>COMMENTS</th>
<th>DRUG</th>
<th>DOSE</th>
<th>DURATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pelvic Inflammatory Disease (PID)</td>
<td></td>
<td>azithromycin ** OR doxycycline *** If high risk Gonococcal azithromycin + ceftriaxone + metronidazole + doxycycline OR metronidazole + Ofloxacin</td>
<td>400mg twice daily 500mg IM 400mg twice daily 100mg twice daily</td>
<td>14 days 10mg twice daily 14 days 14 days</td>
</tr>
</tbody>
</table>

#### Epididymo-orchitis
<35 years of age epididymo-orchitis is most often caused by STI such as *Chlamydia trachomatis* and *Neisseria gonorrhoea*. Refer to GUM for STI screen and partner notification

>35 years of age epididymo-orchitis is most often caused by non-sexually transmitted Gram negative enteric organisms causing urinary tract infections.

There is crossover between these groups and sexual history taking is imperative.

<table>
<thead>
<tr>
<th>ILLNESS</th>
<th>COMMENTS</th>
<th>DRUG</th>
<th>DOSE</th>
<th>DURATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Epididymo-orchitis</td>
<td></td>
<td>doxycycline OR ofloxacin</td>
<td>100mg twice daily 200mg twice daily</td>
<td>14 days 14 days</td>
</tr>
</tbody>
</table>

#### Acute prostatitis
Four weeks treatment may prevent chronic infection. Quinolones are most effective.

<table>
<thead>
<tr>
<th>ILLNESS</th>
<th>COMMENTS</th>
<th>DRUG</th>
<th>DOSE</th>
<th>DURATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute prostatitis</td>
<td></td>
<td>ciprofloxacin</td>
<td>500mg twice daily</td>
<td>28 days</td>
</tr>
</tbody>
</table>

#### Genital warts
Can be managed within primary care with topical treatment. See section 13.7 of the Joint Formulary. Cannot use topical treatments in pregnancy.

<table>
<thead>
<tr>
<th>ILLNESS</th>
<th>COMMENTS</th>
<th>DRUG</th>
<th>DOSE</th>
<th>DURATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Genital warts</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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**AMC approved:** May 2014

**ADTC approved:** June 2014

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# Empirical First Line Antibiotic Policy for Primary Care

<table>
<thead>
<tr>
<th>Genital herpes</th>
<th>Treatment should be administered without delay. A viral swab for HSV PCR should be taken.</th>
<th>aciclovir</th>
<th>200mg five times daily</th>
<th>5 days</th>
</tr>
</thead>
</table>

## SKIN / SOFT TISSUE INFECTIONS

### Impetigo

<table>
<thead>
<tr>
<th>Drug</th>
<th>Adult:</th>
<th>Child:</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>fluclaxcin</td>
<td>500mg four times daily</td>
<td>1 month – 2 years 62.5-125mg four times daily</td>
<td>7 days</td>
</tr>
<tr>
<td>OR</td>
<td>500mg four times daily</td>
<td>2 – 10 years 125-250mg four times daily</td>
<td>7 days</td>
</tr>
<tr>
<td>If allergic to penicillin</td>
<td>10-18 years 250-500mg four times daily</td>
<td>7 days</td>
<td></td>
</tr>
<tr>
<td>erythromycin</td>
<td>500mg four times daily</td>
<td>8-18 years 250-500mg four times daily</td>
<td>7 days</td>
</tr>
</tbody>
</table>

- **Reserve Mupirocin for MRSA eradication.**
- **Topically four times daily.**
- **Topically three times daily.**

### Eczema

- If no visible signs of infection the use of antibiotics encourages resistance and does not improve healing. In eczema with visible signs of infection use treatment as detailed for impetigo. Consider eczema herpeticum in infected eczema with pustulation.

### Cellulitis

- In mild cellulitis fluclaxcin may be used as single drug treatment.

<table>
<thead>
<tr>
<th>Drug</th>
<th>Adult:</th>
<th>Child:</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>500 mg – 1g four times daily</td>
<td>1 month – 2 years 62.5-125mg four times daily</td>
<td>7 - 14 days</td>
<td></td>
</tr>
<tr>
<td>2 – 10 years 125-250mg four times daily</td>
<td>10-18 years 250-500mg four times daily</td>
<td>7 - 14 days</td>
<td></td>
</tr>
</tbody>
</table>

### Leg ulcers uncomplicated

- Bacteria will always be present.
- **Antibiotics do not improve healing.**

### Diabetic ulcers

- Involve diabetologist/podiatrist and microbiologist.
- Consider if antibiotics are needed and use if there is evidence of infection. Send swabs.
- Consider MRSA where 1st line therapy fails and in patients with previous MRSA. In such patients ensure antibiotic choice covers MRSA.

<table>
<thead>
<tr>
<th>Drug</th>
<th>Adult:</th>
<th>Child:</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>fluclaxcin OR</td>
<td>500mg-1g four times daily</td>
<td>14 days</td>
<td></td>
</tr>
<tr>
<td>if allergic to penicillin</td>
<td>500mg twice daily</td>
<td>14 days</td>
<td></td>
</tr>
<tr>
<td>clarithromycin*</td>
<td>if anaerobic infection suspected ADD</td>
<td>metronidazole</td>
<td>14 days</td>
</tr>
</tbody>
</table>

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<th>DURATION</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SKIN / SOFT TISSUE INFECTIONS</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Animal bite</strong></td>
<td>Surgical toilet most important. Assess tetanus and rabies risk. Antibiotic prophylaxis advised for: puncture wound; bite involving hand, foot, face, joint, tendon, ligament, immunocompromised, diabetics, elderly and asplenic patients.</td>
<td>metronidazole + doxycycline b or co-amoxiclav b</td>
<td>Adult: 200 - 400 mg three times daily</td>
<td>7 days</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Adult: 100 mg twice daily</td>
<td>7 days</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Adult: 250/125 – 500/125 mg three times daily</td>
<td>7 days</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Child: &lt;1yr 0.25ml/kg of 125/31 suspension three times daily</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1-6 yrs 125/31 mg three times daily</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>6-12 yrs 250/62 mg three times daily</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>12-18 yrs 250/125mg three times daily</td>
<td></td>
</tr>
<tr>
<td><strong>Human bite</strong></td>
<td>Antibiotic prophylaxis advised. Assess HIV/Hepatitis B &amp; C risk. See references for sources of further advice.</td>
<td>clarithromycin* (child)</td>
<td>Adult: 250 - 500 mg twice daily</td>
<td>7 days</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Child: Body weight &lt;8kg 7.5mg/kg twice daily</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Body weight 8-11kg 62.5mg twice daily</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Body weight 12-19kg 125 mg twice daily</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Body weight 20-29kg 187.5 mg twice daily</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Body weight 30-40kg 250 mg twice daily</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Child 12-18 years 250 mg twice daily</td>
<td></td>
</tr>
<tr>
<td><strong>Conjunctivitis</strong></td>
<td>Most bacterial infections are self-limiting (64% resolve on placebo ^).</td>
<td>chloramphenicol (0.5% drops) (1% ointment at night)</td>
<td>2 hrly reducing to four times daily</td>
<td>All for 48 hours after resolution</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Second line fusidic acid 1% gel twice daily</td>
<td></td>
</tr>
<tr>
<td><strong>Scabies</strong></td>
<td>Treat whole body including scalp, face, ears and under nails. Treat household contacts. See section 13.10.04 in the Lanarkshire Joint Formulary and relevant section of COIM.</td>
<td>permethrin ^a</td>
<td>5% cream</td>
<td>2 applications one week apart</td>
</tr>
<tr>
<td></td>
<td></td>
<td>malathion 0.5% lotion</td>
<td>2 applications one week apart</td>
<td></td>
</tr>
<tr>
<td><strong>Head Lice</strong></td>
<td>See relevant sections of COIM.</td>
<td>malathion 0.5% preparation</td>
<td>2 applications one week apart</td>
<td></td>
</tr>
<tr>
<td><strong>Dermatophyte infection of the proximal fingernail or toenail</strong></td>
<td>Take nail clippings: Start therapy only if infection is confirmed by laboratory. Systemic treatment is indicated for nail infections - topical treatment is usually ineffective. Idiosyncratic liver reactions occur rarely with terbinafine. Itraconazole is effective against yeast and non dermatophyte moulds. For treatment in children seek advice.</td>
<td>terbinafine ^a</td>
<td>Adult: 250mg x1 daily: fingers toes</td>
<td>6 - 12 weeks</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Adult: 200mg twice daily for 7 days monthly, Fingers Toes</td>
<td>3 - 6 months</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>6 - 12 weeks</td>
<td>3 courses</td>
</tr>
<tr>
<td><strong>Dermatophyte infection of the skin</strong></td>
<td>Take skin scrapings (Use mycotrans pack). Treatment: 1 week terbinafine is as effective as 4 weeks azole. ^a If intractable consider oral itraconazole. Discuss scalp infections with specialist.</td>
<td>topical 1% terbinafine ^a</td>
<td>once – twice daily</td>
<td>1 week ^a</td>
</tr>
<tr>
<td></td>
<td></td>
<td>topical 2% miconazole OR</td>
<td>twice daily</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>topical 1% clotrimazole two – three times daily</td>
<td>Continue for 10 days after lesions have healed</td>
<td></td>
</tr>
</tbody>
</table>

---

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### Skin / Soft Tissue Infections: Herpes Virus

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<thead>
<tr>
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<th>DRUG</th>
<th>DOSE</th>
<th>DURATION</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Orofacial HSV-1 infection</strong></td>
<td>Primary infection HSV gingivostomatitis. Remember the need for analgesia and fluid management. Recurrent herpes labialis. Minor recurrent episodes usually require no treatment. Treatment may be indicated for more troublesome recurrences (if can be started promptly). Severe and/or frequent recurrences. Consider long-term suppressive therapy – seek ID or dermatology advice.</td>
<td>aciclovir</td>
<td>Adult: 200 mg five times daily&lt;br&gt;Child: 1 month – 2 years 100 mg five times daily&lt;br&gt;2-18 years 200 mg five times daily</td>
<td>5 days</td>
</tr>
<tr>
<td></td>
<td></td>
<td>topical: aciclovir cream</td>
<td>5 times daily</td>
<td>5 days</td>
</tr>
<tr>
<td></td>
<td></td>
<td>systemic:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>aciclovir</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>famciclovir</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Adult: 500 mg twice daily&lt;br&gt;200 mg five times daily&lt;br&gt;250 mg three times daily</td>
<td>5 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>aciclovir</td>
<td>400 mg twice daily</td>
<td>Usually</td>
</tr>
<tr>
<td></td>
<td></td>
<td>valaciclovir</td>
<td>500 mg daily</td>
<td>3 – 6 months initially</td>
</tr>
<tr>
<td><strong>Chickenpox</strong></td>
<td>Chickenpox in otherwise healthy child between 1 month and 12 years is usually mild. Significant immunocompromised (including high-dose steroids) or suspected complications (e.g. pneumonitis, encephalitis) in a normal host. Neonate Non-pregnant individuals &gt; 12 yrs old. Chronic skin or pulmonary problems. Short, intermittent or aerosolized steroid therapy. Always consider and treat secondary bacterial infection Pregnant women are at increased risk of complications of chickenpox, especially varicella pneumonia. Seek advice on the management of VZV infection or exposure in pregnancy from Infectious Diseases or Microbiology.</td>
<td>No antiviral treatment indicated</td>
<td>Refer to ID unit (adults) or paediatrics (child) for IV aciclovir</td>
<td>Refer to paediatrics for IV aciclovir</td>
</tr>
<tr>
<td></td>
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<td></td>
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<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Shingles</strong></td>
<td>Treatment indicated if: ophthalmic zoster (up to 7 days after rash onset) or predictors of post-herpetic neuralgia: &gt;60y, severe pain, severe skin rash, prolonged prodomal pain AND &lt;72h of onset of rash. Fall regimen adherence must be encouraged – particularly important if aciclovir is used.</td>
<td>first line: aciclovir</td>
<td>Adult 800 mg five times daily</td>
<td>7 days</td>
</tr>
<tr>
<td></td>
<td></td>
<td>second line: valaciclovir OR famciclovir</td>
<td>1 g three times daily</td>
<td>7 days</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>250 mg three times daily, or 750 mg once daily</td>
<td>7 days</td>
</tr>
</tbody>
</table>

### References:
- NHS Lanarkshire Control of Infection Manual (COIM) Section G – Prevention of Blood Borne Virus Infection
- NHS Lanarkshire Control of Infection Manual (COIM) Section S – Guidelines for the Control and Treatment of Scabies
- NHS Lanarkshire Control of Infection Manual (COIM) Section U – Guidelines for the Control and Treatment of Head Lice

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