

A guide for Oxfordshire General Practitioners, Nurse Practitioners and members of Primary Healthcare Teams, produced the PCT Prescribing & Therapeutics Team and GP members of the Oxfordshire Area Prescribing Committee (APCO) in collaboration with the Microbiologists & Infectious Disease Physicians at the Oxford Radcliffe Trust, Dermatologists and Genitourinary Medicine Physicians and the Health Protection Unit. This guidance is also available for use within Oxfordshire & Buckinghamshire Mental Health Partnership NHS Trust (OBMH) for Oxfordshire patients that are provided with specialist mental health services by OBMH.

For patients in a Community Hospital setting, please refer to the APCO agreed Oxford Radcliffe Hospitals NHS Trust Guides for the Use of Antibacterial Drugs for guidance on antibacterial choice. These include: Adult Empirical Treatment Guide, Special Situations Common in Older People Guide, ORH MIL Vol 3:10 Guidelines for the management of cellulitis & erysipelas in adults, ORH MIL Vol 4:10 Treatment of Urinary Tract Infections in the Older Person, ORH MIL Vol 2:1 The management of community acquired pneumonia in adults, ORH MIL Vol 4:7 Routes of administration for antimicrobial drugs, ORH MIL Vol 2:4 Guidelines for the use of intravenous vancomycin and teicoplanin in adults and ORH MIL Vol 1:2 Guidelines for the use of intravenous gentamicin in adults

These Guidelines (based on information from the Health Protection Agency and known local antibiotic sensitivity patterns) were approved by the Area Prescribing Committee, Oxfordshire (APCO) in January 2008 and have been amended as part of the ongoing review of antimicrobial guidance but also to help reduce the incidence of *Clostridium difficile* associated diarrhoea and reduce the risk of MRSA and resistant UTIs caused by multi resistant organisms.

***Current national guidance suggests avoiding broad spectrum antibiotics (e.g. co-amoxiclav, quinolone's and cephalosporin's) when standard and less expensive antibiotics remain effective, as broad spectrum antibiotics increase risk of Clostridium difficile, MRSA and resistant UTI's.***

## Decision to prescribe

- The decision to prescribe an antimicrobial should always be clinically justified and the reason(s) should be recorded in the patient's medical record.
- It is important **not to** prescribe antimicrobials on a 'just in case' basis.
- Antimicrobials prescribed empirically in life-threatening situations should be reviewed early in the light of microbiological results, clinical progress etc and where necessary changed or discontinued as soon as is reasonable.
- Individual patient and drug-specific factors to consider in all cases include:
  - Previous antimicrobial history
  - Previous infection with multi-resistant organisms
  - Allergies
  - Availability of and absorption by oral route.

## Dosages given are for adults and children over 12 years

For children consult the *BNF for children* for specific dosages and to check for licensed use in children but as a simple guide:

6-12yrs use ½ adult dose

2-6yrs use ¼ adult dose

Under 2 year's dose calculated according to body weight

Suggested dosages represent the average recommended for a particular infection and should be adjusted according to patient factors including age, weight, renal function, immune status, history of allergy, and pregnancy, etc.

**Antibiotic of first choice is shown in bold; where more than one antibiotic is recommended in conjunction both are shown in bold.**

An alternative for penicillin for allergic patients has been provided and in some cases additional choices of antibiotic have also been suggested.

When in doubt, where a 'best guess' therapy has failed or special circumstances exist, microbiological advice can be obtained from:

John Radcliffe Hospital: Microbiology and Virology - Tel: 01865 221918

Please refer to BNF for further information.

APCO Approved January 2008

APCO Approved Amendments; November 2008, March 2009, September 2010

Review Date January 2010

## Aims

- To provide a simple, best guess approach to the treatment of common infections
- To promote the safe, effective and economic use of antibiotics
- To minimise the emergence of bacterial resistance in the community
- To reduce the risk of infection from MRSA, Clostridium difficile and other resistant bacteria
- To maintain the effectiveness of antimicrobial agents in the treatment of infections by reducing the risk of bacteria developing antimicrobial resistance.

## Principles of Treatment

1. This guidance is based on the best available evidence but its application must be modified by professional judgement.
2. A dose and duration of treatment is suggested. In severe or recurrent cases consider a larger dose or longer course
3. Treatment of most infections should not exceed 7 days.
4. Prescribe an antibiotic *only when there is likely to be a clear clinical benefit.*
5. Do *not prescribe* an antibiotic for *viral sore throat, simple coughs and colds.*
6. *Limit prescribing over the telephone to exceptional cases.*
7. Use simple generic antibiotics first whenever possible. ***Avoid broad spectrum antibiotics (e.g. co-amoxiclav, quinolone's and cephalosporin's) when standard and less expensive antibiotics remain effective, as they increase risk of Clostridium difficile, MRSA and resistant UTI's.***
8. ***Avoid widespread use of topical antibiotics*** (especially those agents also available as systemic preparations).
9. In pregnancy **AVOID** tetracyclines, aminoglycoside's, quinolone's, and high dose metronidazole. Short-term use of trimethoprim (theoretical risk in first trimester in patients with poor diet, as folate antagonist) or nitrofurantoin (at term, theoretical risk of neonatal haemolysis) is unlikely to cause problems to the foetus.
10. Clarithromycin is an acceptable alternative in those who are unable to tolerate erythromycin because of side effects.

\*Useful websites include:

[http://www.hpa.org.uk/infections/topics\\_az/primary\\_care\\_guidance/menu.htm](http://www.hpa.org.uk/infections/topics_az/primary_care_guidance/menu.htm)

<http://www.brit-thoracic.org.uk>

[http://cks.library.nhs.uk/clinical\\_knowledge](http://cks.library.nhs.uk/clinical_knowledge)

## Grading of guidance recommendations

The strength of each recommendation is qualified by a letter in parenthesis.

Study design	Recommendation Grade
Good recent systematic review of studies	A+
One or more rigorous studies, not combined	A-
One or more prospective studies	B+
One or more retrospective studies	B-
Formal combination of expert opinion	C
Informal opinion, other information	D

*Please refer to BNF for further information.*

APCO Approved January 2008

APCO Approved Amendments; November 2008, March 2009, September 2010

Review Date January 2010

# OXFORDSHIRE PRESCRIBING GUIDELINES FOR THE USE OF ANTIMICROBIAL AGENTS 3

## FOR PRIMARY CARE 2008

ILLNESS / COMMON ORGANISM	COMMENTS	DRUG	DOSE	DURATION OF TX
<b>UPPER RESPIRATORY TRACT INFECTIONS: Consider a delayed antibiotic prescription <sup>A-</sup></b>				
Influenza <a href="#">Influenza HPA</a>  <a href="#">Immunisation against Infectious Disease 2006</a>  <a href="#">Influenza NICE</a>	<p><b>Annual vaccination is essential for all those at risk of influenza.</b> For current 'at risk patients' please refer to: <a href="http://www.hpa.org.uk/infections/topics_az/influenza/seasonal/flufaq.htm#vacc">http://www.hpa.org.uk/infections/topics_az/influenza/seasonal/flufaq.htm#vacc</a></p> <p>The CCDC will issue advice when local surveillance indicates the prevalence of influenza in Oxfordshire has reached the appropriate threshold.</p> <p><b>For otherwise healthy adults, antiviral therapy is not recommended.</b></p> <p>Treat 'at risk' patients, only when influenza A or B is circulating in the community and for oseltamivir only <i>within 48 hours of onset</i>. At risk include:</p> <ul style="list-style-type: none"> <li>• 65 years or over</li> <li>• Chronic respiratory disease (including COPD and asthma) requiring regular medication (caution in severe asthma/COPD)</li> <li>• Significant cardiovascular disease (not hypertension),</li> <li>• Immunocompromised,</li> <li>• Diabetes mellitus,</li> <li>• Chronic renal disease and chronic liver disease.</li> </ul> <p>Patients over 13 years use oseltamivir 75 mg oral capsule BD for 5 days (for OD prophylaxis (10 days) see <a href="#">Influenza NICE</a> ) (Children over 1 year: depending on body weight – refer to BNF for children) .</p>			
Pharyngitis / sore throat / tonsillitis  <a href="#">Clinical Knowledge Summaries SIGN</a>  Group A Streptococcus	<p><b>The majority (over 50%) of sore throats are viral; most patients do not benefit from antibiotics.</b> Consider a <b>delayed antibiotic strategy</b> and explain soreness will take about 8 days to resolve. Patients with 3 of 4 Centor criteria (history of fever, purulent tonsils, cervical adenopathy, absence of cough) or history of otitis media may benefit from antibiotics.<sup>A-</sup> Antibiotics shorten duration of symptoms by 8 hours. <sup>A+</sup></p> <p><b>You need to treat 30 children or 145 adults to prevent one case of otitis media. <sup>A+</sup></b></p>			
	QDS may be more appropriate if severe. <sup>D</sup>  Avoid amoxicillin / ampicillin if possibility of glandular fever as maculopapular rash commonly results, in patients with glandular fever. This rash is not related to true penicillin allergy.  Consider early antibiotic therapy if history of valvular heart disease, marked systemic upset, peritonsillar cellulitis or if at an increased risk from acute infection (e.g. immunosuppression)	<b>phenoxymethylpenicillin</b>  erythromycin <i>if allergic to penicillin</i>	500 mg BD or 250mg QDS  500 mg BD or 250 mg QDS (QDS less side-effects)  Dosages of both can be doubled if severe.	10 days  10 days
Oro-dental Infections  Oral Flora	Antibacterial required only for severe disease  Treat for 3 to 5 days or until symptoms resolve.			
		<b>amoxicillin</b>  Consider addition of metronidazole if severe infection or failure to respond to amoxicillin  erythromycin <i>if allergic to penicillin</i>	500mg TDS  400mg TDS  500 mg BD or 250 mg QDS (QDS less side-effects)	3 - 5 days*  3 - 5 days*  3 - 5 days* *or until symptoms resolve
Otitis media <a href="#">Clinical Knowledge Summaries</a>  Pneumococcus  <i>Haem. influenzae</i>  Group A Streptococcus	<p><b>Viruses account for over 50% of these infections.</b> Cases resolve in <b>80% without antibiotics.</b><sup>A+</sup></p> <p><b>Poor outcome unlikely if no vomiting or temp &lt;38.5°C.</b><sup>A-</sup> Consider use of paracetamol and ibuprofen <sup>A-</sup></p> <p>Antibiotics do not reduce pain in first 24 hours, subsequent attacks or deafness.<sup>A+</sup></p> <p><b>Need to treat 20 children &gt;2y and seven 6-24month olds to get pain relief in one at 2-7 days.</b><sup>A+B+</sup></p>			
		<b>amoxicillin</b>  erythromycin <i>if allergic to penicillin</i>	500mg TDS  500 mg BD or 250 mg QDS (QDS less side-effects)	3 days*  3 days*  * Standing Medical Advisory Committee guidelines suggest 3 days. In otitis media, the relapse rate is slightly higher at 10 days with a 3-day course but long-term outcomes are similar. <sup>A+</sup>

*Please refer to BNF for further information.*

APCO Approved January 2008

APCO Approved Amendments; November 2008, March 2009, September 2010

Review Date January 2010

# OXFORDSHIRE PRESCRIBING GUIDELINES FOR THE USE OF ANTIMICROBIAL AGENTS FOR PRIMARY CARE 2008

ILLNESS / COMMON ORGANISM	COMMENTS	DRUG	DOSE	DURATION OF TX
Otitis externa  Colonising organisms <i>Staph aureus</i>  <a href="#">Clinical Knowledge Summaries</a>	If Colonising organisms  If <i>Staph aureus</i>	Aural toilet ± aluminium acetate or steroid drops soaked on ribbon gauze or sponge wick  <b>flucloxacillin</b>  erythromycin <i>if allergic to penicillin</i>	500mg QDS  500 mg BD or 250 mg QDS (QDS less side-effects)	5 days  5 days
Sinusitis acute or chronic  <a href="#">Clinical Knowledge Summaries</a>  Pneumococcus <i>Haem. influenzae</i> Group A Streptococcus PLUS Anaerobes	<b>Viruses account for over 50% of these infections.</b>  <b>Symptomatic benefit of antibiotics is small</b> - 69% resolve without antibiotics; and 84% resolve with antibiotics. <sup>A+</sup>  <b>Reserve antibiotics for severe<sup>B+</sup> or symptoms (&gt; 10 days).</b>  Cochrane review concludes that amoxicillin and phenoxymethylpenicillin have similar efficacy to the other recommended antibiotics. If failure to respond use another first line antibiotic then second line	<b>amoxicillin</b>  erythromycin <i>if allergic to penicillin</i>  <i>or</i> oxytetracycline (NB: Not recommended for children or in pregnancy)  2 <sup>nd</sup> line: Consider Addition of metronidazole or changing to co-amoxiclav if failure to respond to 1 <sup>st</sup> line therapy	500mg TDS  500 mg BD or 250 mg QDS (QDS less side-effects)  250mg QDS  400mg TDS  375mg TDS	7 days  7 days  7 days  7 days  7 days

## LOWER RESPIRATORY TRACT INFECTIONS

**Note:** Avoid tetracyclines in pregnancy. Low doses of penicillins are more likely to select out resistance. The quinolones ciprofloxacin and ofloxacin have poor activity against pneumococci. However, they do have use in PROVEN pseudomonal infections.

Acute bronchitis  <a href="#">Clinical Knowledge Summaries</a>  Pneumococcus <i>Haem. influenzae</i>	Systematic reviews indicate antibiotics have marginal benefits in otherwise healthy adults. <sup>A+</sup> Patient leaflets can reduce antibiotic use. <sup>B+</sup>  If no response in 48 hours of antibiotic therapy consider admission or add erythromycin first line or a tetracycline <sup>C</sup> to cover 'atypical' organisms.	<b>amoxicillin</b>  oxytetracycline (NB: Not recommended for children) Or erythromycin <i>if allergic to penicillin</i>	250 - 500 mg TDS  250 - 500 mg QDS  500 mg BD or 250 mg QDS (QDS less side-effects)	5 days  5 days  5 days
Acute exacerbation of COPD  <a href="#">NICE Clinical Knowledge Summaries</a>  Pneumococcus <i>Haem. influenzae</i>	<b>Viruses may account for over 50% of these infections.</b> (30% viral, 30-50% bacterial, rest undetermined) <b>Antibiotics not indicated in absence of purulent/mucopurulent sputum.<sup>B+</sup></b> Most valuable if increased dyspnoea and increased purulent sputum. <sup>B+</sup> In penicillin allergy use erythromycin if tetracycline contraindicated  If no response in 48 hours of antibiotic therapy consider admission or add erythromycin first line or a tetracycline <sup>C</sup> to cover 'atypical' organisms.	<b>amoxicillin</b>  oxytetracycline (NB: Not recommended for children) Or erythromycin <i>if allergic to penicillin</i>	250 - 500 mg TDS  250 - 500 mg QDS  500 mg BD or 250 mg QDS (QDS less side-effects)	5 days  5 days  5 days

Please refer to BNF for further information.

APCO Approved January 2008

APCO Approved Amendments; November 2008, March 2009, September 2010

Review Date January 2010

# OXFORDSHIRE PRESCRIBING GUIDELINES FOR THE USE OF ANTIMICROBIAL AGENTS FOR PRIMARY CARE 2008

Community-acquired pneumonia - treatment in the community <a href="#">BTS</a> <a href="#">BTS.pdf</a>  Pneumococcus Mycoplasma, Chlamydia Legionella	<b>Start antibiotics immediately.</b> <sup>B-</sup>	<b>amoxicillin</b>	500 mg TDS	7 - 10 days
	If no response in 48 hours consider admission or add erythromycin first line or a tetracycline <sup>C</sup> to cover 'atypical' organisms.	oxytetracycline (NB: Not recommended for children) Or erythromycin	500 mg QDS	7 - 10 days
	In severely ill give parenteral benzylpenicillin before admission <sup>C</sup> and seek risk factors for Legionella and <i>Staph. aureus</i> infection. <sup>D</sup>  Post Influenza: Seek specialist advice		500 mg QDS	7 - 10 days  Number of days treatment is dependant on severity

*Please refer to BNF for further information.*

APCO Approved January 2008

APCO Approved Amendments; November 2008, March 2009, September 2010

Review Date January 2010

# OXFORDSHIRE PRESCRIBING GUIDELINES FOR THE USE OF ANTIMICROBIAL AGENTS FOR PRIMARY CARE 2008

ILLNESS	COMMENTS	DRUG	DOSE	DURATION OF TX
<b>URINARY TRACT INFECTIONS</b> <a href="#">Clinical Knowledge Summaries</a>				
See local Oxfordshire Guideline <a href="http://www.oxfordshire.nhs.uk/docs/prescribing/12-4-march2003.pdf">http://www.oxfordshire.nhs.uk/docs/prescribing/12-4-march2003.pdf</a>				
<b>Note:</b> Amoxicillin resistance is common, therefore <i>ONLY</i> use if culture confirms susceptibility. In the elderly (>65 years), do not treat asymptomatic bacteriuria; it occurs in 25% of women and 10% of men and is not associated with increased morbidity <sup>†</sup> In the presence of a catheter, antibiotics will not eradicate bacteriuria; only treat if systemically unwell or pyelonephritis likely.				
<b>Females:</b> Cystitis / Uncomplicated UTI i.e. no fever or flank pain  <i>E Coli</i>	Use urine dipstick to guide decision making as opposed to over ruling clinical judgement.  There is NO need for culture unless failure of empirical therapy or relapse/recurrent infection  There is less relapse with trimethoprim than cephalosporins <sup>A-</sup> Community multi-resistant <i>E. coli</i> with Extended-spectrum Beta-lactamase enzymes (ESBLs) are increasing so perform culture in all treatment failures. ESBLs are multi-resistant but remain sensitive to nitrofurantoin	<b>trimethoprim</b> <sup>B+</sup>  nitrofurantoin <sup>A-</sup> OR nitrofurantoin MR <sup>A-</sup>  3 <sup>rd</sup> line cefalexin  Forth line - depends on susceptibility of organism isolated	200 mg BD  50mg QDS  100mg BD  500mg TDS	3 days <sup>B+</sup>  3 days <sup>B+</sup>  3 days <sup>B+</sup>  3 days <sup>B+</sup>
<b>Females:</b> Pyelonephritis  <i>E Coli</i>	Send MSU for culture.	<b>co-amoxiclav</b> (prescribe as co-amoxiclav 375mg with amoxicillin 250mg) OR ciprofloxacin <sup>A-</sup> OR if sensitivities known trimethoprim	500/125 mg TDS  500 mg BD  200 mg BD	14 days <sup>A-</sup>  7 days  14 days
Recurrent UTI women $\geq$ 3/yr	Post coital prophylaxis is as effective as prophylaxis taken nightly. Prophylactic doses	<b>nitrofurantoin</b> OR trimethoprim	50 mg 100 mg	Stat post coital OR OD at night
<b>Females Pregnancy:</b> Cystitis  <i>E Coli</i>	➤ Avoid trimethoprim in 1 <sup>st</sup> trimester of pregnancy. ➤ However short-term use of trimethoprim or nitrofurantoin in pregnancy is unlikely to cause problems to the foetus. <sup>B+</sup>  Send MSU for culture Check MSU 7 days after treatment	<b>cefalexin</b> OR nitrofurantoin OR nitrofurantoin MR OR  If sensitivities known:  trimethoprim OR amoxicillin	500mg TDS  50mg QDS  100mg BD  200 mg BD  500mg TDS	7 days  7 days  7 days  7 days  7 days
<b>Females Pregnancy:</b> Pyelonephritis  <i>E Coli</i>	Send MSU for culture Check MSU 7 days after treatment	<b>cefalexin</b> OR co-amoxiclav (prescribe as co-amoxiclav 375mg with amoxicillin 250mg)  If sensitivities known:  trimethoprim OR amoxicillin	500mg TDS  500/125 mg TDS  200 mg BD  500mg TDS	10 – 14 days  10 – 14 days  10 – 14 days  10 – 14 days
<b>Children, Adult Males, Relapse or Recurrent Infection in Non Pregnant Females</b>  <i>E Coli</i>	Send MSU for culture Check MSU 7 days after treatment completed and investigate underlying cause  Ciprofloxacin is not suitable for children  <b>NOTE:</b> Doses stated are ADULT DOSES. FOR CHILDREN: Please refer to the Children's BNF for appropriate doses.	<b>co-amoxiclav</b> (prescribe as co-amoxiclav 375mg with amoxicillin 250mg)  ciprofloxacin OR cefalexin  If sensitivities known:  trimethoprim OR amoxicillin	500/125 mg TDS  500mg BD  500mg TDS  200 mg BD  500mg TDS	10 – 14 days  10 -14 days  10 - 14 days  10 – 14 days  10 – 14 days

Please refer to BNF for further information.

APCO Approved January 2008

APCO Approved Amendments; November 2008, March 2009, September 2010

Review Date January 2010

# OXFORDSHIRE PRESCRIBING GUIDELINES FOR THE USE OF ANTIMICROBIAL AGENTS FOR PRIMARY CARE 2008

## GENITAL TRACT INFECTIONS - UK NATIONAL GUIDELINES

*Note: Patients with risk factors for STI should be considered for referral to GUM, especially if recurrent infections.*

*Risk factors are: age <25, new partner in last 3 months, 2 or more partners in last 6 months, non-use of barrier contraceptives, STI or STI symptoms in partner.*

*Advice on urogenital infections is available from the **Genitourinary Medicine Department, Churchill Hospital Oxford 231231 Monday to Friday 0900-1800, of out of hours the Churchill switchboard Oxford and bleep the duty GUM doctor.***

*\*For further information about investigation and treatment of vaginal discharge see local guideline <http://www.oxfordshire.nhs.uk/docs/prescribing/9-5-september2000.pdf>*

ILLNESS	COMMENTS	DRUG	DOSE	DURATION OF TX
*Bacterial vaginosis	A 5 day course of oral metronidazole is slightly more effective than 2 g stat. <sup>A+</sup> Pregnancy not a contraindication to the 400mg BD dosage. Avoid 2g stat dose in pregnancy. Topical treatment gives similar cure rates <sup>A+</sup> but is more expensive.	<b>metronidazole</b> <sup>A+</sup> OR metronidazole 0.75% vag gel <sup>A+</sup>	400 mg BD 5 g applicatorful at night	5 days 5 days
*Vaginal candidiasis	All topical and oral azoles give 80-95% cure. <sup>A-</sup> There is no evidence that oral therapy is better than topical - the usual reasons for continuing or recurrent symptoms are either that the infection is not Candida or patients are experiencing cyclical relapses and require suppressive therapy. <i>In pregnancy avoid oral azole<sup>B</sup></i> Suggested regimes for patients experiencing cyclical relapse that require suppressive therapy:	<b>clotrimazole 10% OR clotrimazole pessary</b>  clotrimazole Or fluconazole Or itraconazole	5 g vaginal cream 500 mg pessary  500mg pessary once weekly 100mg oral once weekly 400mg oral once monthly at the expected time of symptoms	Stat single dose Stat single dose  for 3-6 months for 3-6 months for 3-6 months
*Trichomoniasis	Refer to GUM for contact tracing & partner treatment. Treat partners simultaneously In pregnancy avoid 2g single dose metronidazole. Pregnancy not a contraindication to the 400mg BD dosage. Topical clotrimazole gives symptomatic relief (not cure).	<b>metronidazole</b> <sup>A-</sup>	400 mg BD or 2 g in single dose	5 days
<i>Chlamydia trachomatis</i> <a href="#">Chlamydia quick reference guide</a>	Tetracyclines are contra-indicated in pregnancy. Erythromycin and ciprofloxacin are less efficacious than doxycycline. Treat partners Refer contacts to GUM clinic (See above for contact details)	<b>doxycycline</b> <sup>A+</sup> OR oxytetracycline <sup>A-</sup> erythromycin <sup>A-</sup>  azithromycin <sup>A+</sup>	100 mg BD 500 mg QDS 500 mg BD or 500 mg QDS 1 g stat	7 days 7 days 14 days 7 days 1 hr before or 2 hrs after food
Pelvic Inflammatory Disease (PID) Chlamydia /no pathogen	Cause usually STI therefore essential to test for <i>N. gonorrhoea</i> (as increasing antibiotic resistance) and chlamydia. Refer contacts to GUM clinic (See above for contact details)  If pregnancy is a possibility	Refer/discuss with GUM for contact tracing & partner treatment <b>doxycycline + metronidazole</b> or ofloxacin + metronidazole  erythromycin (+ metronidazole)	100mg BD 400mg BD  400mg BD 400mg BD  500mg QDS 400mg BD	14 days  14 days  14 days
Acute Prostatitis <i>E.coli</i>	4 weeks treatment may prevent chronic infection. Quinolones are more effective.	<b>ciprofloxacin</b> or trimethoprim <sup>C</sup>	500 mg BD 200 mg BD	4 weeks 4 weeks
Prostatitis (Chronic)	Consider referral to GUM	<b>doxycycline</b>	100mg BD	3-4 weeks
Urethritis	Cause usually STI Refer/discuss with GUM for contact tracing & partner treatment (See above for contact details) Chlamydia Gonorrhoea	<b>doxycycline</b> Refer GUM	100mg BD	7 days

**Please refer to BNF for further information.**

APCO Approved January 2008

APCO Approved Amendments; November 2008, March 2009, September 2010

Review Date January 2010

# OXFORDSHIRE PRESCRIBING GUIDELINES FOR THE USE OF ANTIMICROBIAL AGENTS FOR PRIMARY CARE 2008

ILLNESS	COMMENTS	DRUG	DOSE	DURATION OF TX
Epididymoorchitis (<35yrs or increased risk of STI) Chlamydia /no pathogen	Cause usually STI  For epididymo-orchitis most probably due to enteric organisms:	Refer/discuss with GUM for contact tracing & partner treatment <b>doxycycline</b>  ofloxacin	100mg BD  200mg BD	14 days  for 14 days
Epididymoorchitis (>35yrs or low risk of STI)	E.coli	<b>ciprofloxacin</b> trimethoprim	500mg BD 200mg BD	14 days 14 days
<b>GASTRO-INTESTINAL TRACT INFECTIONS</b>				
For further information about investigation and clinical and public health management see local guide <a href="#">Management of Acute Diarrhoea In Primary Care – Prescribing Points 19.12</a> <a href="#">Oxfordshire PCT Referral Guidelines: Gastroenterology</a>				
<i>Clostridium difficile</i> Infection (CDI) <a href="#">DH &amp; HPA</a>	<b>STOP unnecessary antibiotics and/or PPIs<sup>B+</sup>.</b> <i>If continued antibiotic treatment necessary seek micro/ID advice.</i>  Admit if severe: T >38.5; WCC >15, rising creatinine or signs/symptoms of severe colitis <sup>C</sup>  If patient is unable to take capsules give metronidazole suspension.	<i>1<sup>st</sup>/2<sup>nd</sup> episode (whether recurrence or relapse)</i> <b>vancomycin</b>  <i>3<sup>rd</sup> episode/or severe disease</i> <b>Seek micro/ID advice</b>  metronidazole	125mg QDS po    400mg TDS po	14 days <sup>C</sup>    14 days <sup>C</sup>
Gastroenteritis <a href="#">Clinical Knowledge Summaries</a>	<b>Most self-limiting and antibiotic treatment is rarely required. Antibiotic therapy is not usually indicated as it only reduces diarrhoea by 1-2 days<sup>B+</sup> and can cause antibiotic resistance or increased incidence of <i>C difficile</i>.<sup>B+</sup></b> Empirical treatment with ciprofloxacin* may be given to those with dysenteric symptoms and <b>considered</b> in the elderly and others at high risk of serious complications of gastroenteritis if <b>systemically unwell</b> (see 'High Risk' patients in <a href="#">Prescribing Points 19.12</a> ). Empirical antibiotic therapy for children is <b>not</b> recommended.			
Infective diarrhoea <a href="#">Clinical Knowledge Summaries</a>	Suspected Campylobacter  Suspected Salmonella / Shigella  <b>Only consider empirical therapy if the patient is systemically unwell. Usually wait for culture result to reassess whether antibiotics are indicated.</b>	erythromycin  ciprofloxacin*	250mg QDS  500mg BD	3 – 5 days  3 – 5 days
Traveller's diarrhoea <a href="#">Clinical Knowledge Summaries</a>	<b>Only consider standby antibiotics for remote areas or people at high-risk of severe illness with travellers' diarrhoea<sup>C</sup>.</b> If standby treatment appropriate give: ciprofloxacin* 500 mg twice a day for 3 days ( <b>private Rx</b> ) <sup>C, B+</sup> . If quinolone resistance high (e.g. south Asia) and standby treatment appropriate: consider azithromycin 1g stat ( <b>private Rx</b> ).			
<i>*Not licensed for use in children – only give on microbiologist/infectious disease physician advice</i>				

Please refer to BNF for further information.

APCO Approved January 2008

APCO Approved Amendments; November 2008, March 2009, September 2010

Review Date January 2010

# OXFORDSHIRE PRESCRIBING GUIDELINES FOR THE USE OF ANTIMICROBIAL AGENTS 9

## FOR PRIMARY CARE 2008

<p>Eradication of <i>Helicobacter pylori</i> <a href="#">NICE</a></p>	<p>Eradication is beneficial in DU, GU and low grade MALTOMA, but NOT in GORD.<sup>A</sup> In NUD, 8% of patients benefit. Triple treatment attains &gt;85% eradication.<sup>A+</sup></p> <p>For initial treatment, a week triple therapy regimen that comprises a PPI, clarithromycin and either amoxicillin or metronidazole can be used.</p> <p>Do not use clarithromycin or metronidazole if used in the past year for any infection.<sup>C</sup> Resistance to amoxicillin is rare.</p> <p>If a patient has been treated with metronidazole for other infections, a regimen containing a PPI, amoxicillin and clarithromycin is preferred for initial therapy.</p> <p>If a patient has been treated with clarithromycin for other infections, a regimen containing a PPI, amoxicillin and metronidazole is preferred for initial therapy.</p> <p>Triple therapy should therefore be chosen dependant on whether the patient has had previous exposure to either metronidazole or clarithromycin.</p>	<p><i>First line</i><sup>A+</sup> <b>omeprazole capsules PLUS amoxicillin AND clarithromycin</b></p> <p>OR <b>omeprazole capsules PLUS amoxicillin AND metronidazole</b></p> <p>For patients allergic to penicillin: <b>omeprazole capsules PLUS metronidazole AND clarithromycin</b></p> <p>For 2<sup>nd</sup> line treatment, if no previous exposure to the alternate regimen / penicillin allergy consider the alternate regimen for 14 days, otherwise contact the Microbiology Dept on 01865 221918 or the Gastroenterology Dept on 01865 220959 for advice.</p>	<p>20 mg BD 1g BD 500mg BD 20 mg BD 1g BD 400mg BD 20 mg BD 400mg BD 500mg BD</p>	<p>All for 7 days<sup>A</sup></p>
ILLNESS	COMMENTS	DRUG	DOSE	DURATION OF TX
<p>Threadworms <a href="#">Clinical Knowledge Summaries</a></p>	<p>Treat household contacts. Advise morning shower/baths and hand hygiene.</p> <p><i>Use piperazine in children under 2 years.</i></p>	<p><b>mebendazole</b></p> <p>piperazine</p>	<p>100 mg  1-6 yrs: 5ml spoonful 3-12 months: 2.5ml spoon</p>	<p>Stat  Stat, repeat after 2 weeks Stat, repeat after 2 weeks</p>
<p>Giardia</p>	<p>Paediatric doses are usually given as once daily doses for three days. Please refer to Children's BNF for specific doses for specific ages</p>	<p><b>metronidazole</b></p>	<p>400mg TDS</p>	<p><b>7 -10 days</b></p>
<p>Other Worms</p>	<p>As per BNF / Children's BNF Guidelines</p>			
<b>SKIN / SOFT TISSUE INFECTIONS</b>				
ILLNESS	COMMENTS	DRUG	DOSE	DURATION OF TX
<p>Impetigo <a href="#">Clinical Knowledge Summaries</a> Group A Streptococcus <i>Staph aureus</i></p>	<p><i>As resistance is increasing topical antibiotics are not recommended</i></p> <p>MRSA: Minor skin infections may respond to oxytetracycline</p> <p>Reserve Mupirocin for confirmed MRSA ONLY.</p> <p>A Cochrane review (search date to January 2003) of interventions for the treatment of impetigo found little evidence on the effectiveness of disinfecting / antiseptic however the role of antiseptics and potassium permanganate soaks could be considered as adjuvant therapy in severe or resistant cases.</p>	<p><b>flucloxacillin</b> <i>If penicillin allergic:</i> erythromycin</p> <p>oxytetracycline (<i>NB: Not for children under 12 years or in pregnancy</i>)</p> <p>Mupirocin</p>	<p>Oral 500 mg QDS Oral 500 mg QDS 250mg – 500mg QDS Topically QDS</p>	<p>5 - 7 days 5 - 7 days 5 – 7 days 5 days</p>

*Please refer to BNF for further information.*

APCO Approved January 2008

APCO Approved Amendments; November 2008, March 2009, September 2010

Review Date January 2010

# OXFORDSHIRE PRESCRIBING GUIDELINES FOR THE USE OF ANTIMICROBIAL AGENTS 10

## FOR PRIMARY CARE 2008

<p>Cellulitis Group A Streptococcus <i>Staph aureus</i></p> <p><a href="#">Clinical Knowledge Summaries</a></p>	<p>If patient afebrile &amp; healthy: use flucloxacillin alone. If febrile and ill or fails to resolve, consider admission for IV treatment Note: Control of oedema and elevation of the affected limb is a key part of treatment. Dermatitis is often misdiagnosed as cellulitis: Review diagnosis if it appears bilateral Recurrent cellulitis in lymphoedema is a common problem: Each episode of cellulitis causes more lymphatic damage: Consider prophylactic phenoxymethylpenicillin 250mg BD for 6 months.</p> <p>If cellulitis in the presence of an ulcer, treat as for leg ulcers (section below) and use co-amoxiclav</p> <p>Per-anal Infection in children – Consider Group A Strep</p> <p>Vulvitis in pre-pubertal girls: Consider Group A Strep, <i>Strep pneumoniae</i>, <i>Haem. Influenzae</i></p>	<p><b>flucloxacillin</b></p> <p><i>If penicillin allergic:</i> erythromycin alone</p> <p><i>For facial cellulitis<sup>c</sup></i> co-amoxiclav</p>	<p>500 mg QDS</p> <p>500 mg QDS</p> <p>500/125 mg TDS</p>	<p>7 – 14 days</p> <p>7 – 14 days</p> <p>7 - 14 days</p> <p><b>Duration of therapy depends on clinical response</b></p>
<p>Mastitis Group A Streptococcus <i>Staph aureus</i></p>		<p><b>flucloxacillin</b></p> <p><i>If penicillin allergic:</i> erythromycin alone</p>	<p>500 mg QDS</p> <p>500 mg QDS</p>	<p>7 – 14 days</p> <p>7 – 14 days</p> <p><b>Duration of therapy depends on clinical response</b></p>

*Please refer to BNF for further information.*

APCO Approved January 2008

APCO Approved Amendments; November 2008, March 2009, September 2010

Review Date January 2010

# OXFORDSHIRE PRESCRIBING GUIDELINES FOR THE USE OF ANTIMICROBIAL AGENTS 11

## FOR PRIMARY CARE 2008

ILLNESS	COMMENTS	DRUG	DOSE	DURATION OF TX
Eczema <a href="#">Clinical Knowledge Summaries</a>	There is a lack of evidence that these topical corticosteroids combined with topical antibiotics are more effective than topical corticosteroids alone, and there is a possibility that widespread use may contribute to the development of bacterial resistance.			
Leg ulcers <a href="#">Clinical Knowledge Summaries</a>	Bacteria will always be present. <b>Antibiotics do not improve healing.</b> <sup>A+</sup> Culture swabs and antibiotics are only indicated if there is evidence of clinical infection such as inflammation/redness/cellulitis; increased pain; purulent exudate; rapid deterioration of ulcer or pyrexia. If these signs are present: Treat as for Cellulitis (see section above).			
	Diabetic leg ulcer Refer for specialist opinion if severe infection.	<b>co-amoxiclav</b> (prescribe as co-amoxiclav 375mg with amoxicillin 250mg)	500/125 mg TDS	7 days and review
Animal bite Pasteurella multocida + anaerobes	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, asplenic Antibiotic prophylaxis advised.	<b>co-amoxiclav</b> <sup>B-</sup> (prescribe as co-amoxiclav 375mg with amoxicillin 250mg)  <i>If penicillin allergic:</i> metronidazole PLUS oxytetracycline (animal) and review at 24 & 48 hrs	500/125 mg TDS  200 – 400mg TDS 250 - 500 mg QDS	7 days  7 days 7 days
Human bite Anaerobes Staph.aureus Group A Streptococcus	Surgical toilet most important. Antibiotic prophylaxis advised for – puncture wound; bite involving hand, foot, face, joint, tendon, ligament; immunocompromised, diabetics, elderly, asplenic Antibiotic prophylaxis advised.  Assess HIV/hepatitis B & C risk: The Health Protection Unit and 'On Call Public Health team are available to help on risk assessment. Phone: 01865 226858.	<b>co-amoxiclav</b> <sup>B-</sup> (prescribe as co-amoxiclav 375mg with amoxicillin 250mg)  <i>If penicillin allergic:</i> metronidazole PLUS erythromycin (human) and review at 24 & 48 hrs	500/125 mg TDS  200-400 mg TDS 250-500 mg QDS	7 days  7 days 7 days
Acne Propionibacterium acnes  <a href="#">Clinical Knowledge Summaries</a>	Note: Propionibacteria strains resistant to erythromycin are becoming widespread and this may explain poor response.  * 3-6 months of treatment may be too early to assess for response.  Note: If acne is scarring significantly, make specialist referral for consideration of isotretinoin (Specialist prescribing only).	<b>Topical applications i.e. benzoyl peroxide + / - retinoid</b> for non-inflammatory comedonal disease.  If significant inflammatory disease, consider adding in an antibiotic  <b>1<sup>st</sup> Line: oxytetracycline</b>  <b>2<sup>nd</sup> Line</b> if no response after 3 months: lymecycline or erythromycin	500mg bd  408mg once daily  500mg bd	3 - 6 months or longer*  3 - 6 months or longer*  3 - 6 months or longer*

*Please refer to BNF for further information.*

APCO Approved January 2008

APCO Approved Amendments; November 2008, March 2009, September 2010

Review Date January 2010

# OXFORDSHIRE PRESCRIBING GUIDELINES FOR THE USE OF ANTIMICROBIAL AGENTS 12

## FOR PRIMARY CARE 2008

ILLNESS	COMMENTS	DRUG	DOSE	DURATION OF TX
<p>Conjunctivitis</p> <p><a href="#">Clinical Knowledge Summaries</a></p> <p>Pneumococcus <i>Haem.influenzae</i> <i>Staph.aureus</i> Chlamydia (neonates)</p>	<p><b>Viruses account for over 50% of these infections. Most bacterial infections are self-limiting</b> (64% resolve on placebo<sup>A+</sup>). They are usually unilateral with yellow-white mucopurulent discharge. Fusidic acid has less Gram-negative activity</p> <p>In neonates Chlamydia may be implicated which will require systemic erythromycin 12.5mg / kg QDS for 2-3 weeks +/- topical erythromycin (also treat mother and partner)</p>	<p>chloramphenicol 0.5% drops</p> <p>fusidic acid 1% gel</p>	<p>TWO HOURLY reducing to QDS</p> <p>BD</p>	<p>All for 48 hours after resolution</p>
<p>Scabies</p> <p><i>Sarcoptes scabiei</i></p> <p><a href="#">Clinical Knowledge Summaries</a></p>	<p>Treat whole body including scalp, face, neck, ears, under nails.</p> <p>Treat all household and sexual contacts even if not showing itching symptoms.</p> <p>Permethrin: Wash off after 8 – 12 hours If hands are washed with soap within 8 hours they should be re-treated</p> <p>Malation: Wash off after 24 hours If hands are washed with soap within 24 hours they should be re-treated</p>	<p><b>permethrin<sup>A+</sup></b></p> <p>malathion (unlicensed use)</p>	<p>5% cream</p> <p>0.5% Aqueous Liquid</p>	<p>2 applications as per BNF instructions one week apart</p> <p>2 applications as per BNF instructions one week apart</p>
<p>Head Lice</p> <p><i>Pediculus capitis</i></p> <p><a href="#">Clinical Knowledge Summaries</a></p>	<p>Treatment is not necessary unless a live louse is found</p> <p>Offer a choice of treatment strategies: an insecticide, wet combing, or dimeticone lotion: No treatment is 100% effective. Choice of treatment depends on the preference of the individual/parent and on the treatment history.</p> <p>For a woman who is pregnant or breastfeeding, offer treatment with wet combing or dimeticone.</p> <p>Insecticides and dimeticone are <b>not</b> licensed for children under 6 months except under medical supervision</p> <p>Do not use insecticide lotion more than once for three consecutive weeks</p>	<p>Consider dimeticone lotion 4% especially if resistance to insecticides.</p> <p>If using insecticides use lotions, not shampoo</p> <p>Wet combing: Combining the above or a sole treatment of regular wet combing with conditioner</p>	<p>Rub lotion onto dry hair and scalp. Allow to remain on for 8 hours or overnight. Remove by washing after 8 hours</p> <p>Rub lotion into dry hair and allow to dry naturally. Remove by washing after 12 hours</p> <p>Treatment involves methodically combing wet hair with a fine-toothed comb to remove lice. This is undertaken for four sessions over 2 weeks. Wet combing should be continued until no full-grown lice have been seen for 3 consecutive sessions.</p>	<p>2 applications one week apart</p> <p>2 applications one week apart</p>
<p>Fungal / Dermatophyte infection of the proximal fingernail or toenail</p> <p>For children seek advice</p>	<p>Take nail clippings: Start therapy only if infection is confirmed by laboratory.</p> <p>Idiosyncratic liver reactions occur rarely with terbinafine.</p> <p>For infections with yeasts and non-dermatophyte moulds and <i>Candida</i> use itraconazole.<sup>C</sup></p> <p>Itraconazole can also be used for dermatophytes</p>	<p><b>terbinafine<sup>A-</sup></b></p> <p>itraconazole</p>	<p>250 mg OD fingernails toenails</p> <p>200 mg BD fingernails toenails</p>	<p>6 – 12 weeks 3 – 6 months</p> <p>7 days monthly 2 courses 7 days monthly 3 courses</p>

*Please refer to BNF for further information.*

APCO Approved January 2008

APCO Approved Amendments; November 2008, March 2009, September 2010

Review Date January 2010

# OXFORDSHIRE PRESCRIBING GUIDELINES FOR THE USE OF ANTIMICROBIAL AGENTS 13

## FOR PRIMARY CARE 2008

ILLNESS	COMMENTS	DRUG	DOSE	DURATION OF TX
<p>Fungal / Dermatophyte infection of the skin</p> <p>Dermatophytes</p> <p><a href="#">Clinical Knowledge Summaries</a></p> <p>Scalp Dermatophytes</p>	<p><b>Athletes Foot/ Fungal Groin Infection / Ringworm</b></p> <p>Treatment: 1 week terbinafine is as effective as 4 weeks azole. <sup>A</sup>If intractable consider oral itraconazole.</p> <p><b>Note:</b> Terbinafine cream is not licensed for use in children and an imidazole should be used 1<sup>st</sup> line.</p> <p>Topical combinations (+ corticosteroid) should not be needed and avoided if at all possible</p> <p><b>Scalp Ringworm</b> <i>Hair plucks for culture are essential as choice of treatment is species dependent: M canis responds well to griseofulvin whereas T tonsurans (greater recent prevalence especially in cities and black children) responds well to terbinafine. Dermatologists advise initiating treatment with terbinafine and being prepared to switch treatment to griseofulvin if culture shows M canis.</i></p> <p>Terbinafine is not licensed for use in children but the BNF for Children does suggest doses for children over 1 year old (see below).</p> <p>Bodyweight 10–20 kg, 62.5 mg once daily; Bodyweight 21–40 kg, 125 mg once daily; Bodyweight over 40 kg, 250 mg once daily.</p> <p>This would allow shorter treatment courses than with griseofulvin therapy and terbinafine tablets may be crushed</p>	<p><b>Topical 1% terbinafine (Not children)</b> <sup>A+</sup></p> <p>1% imidazole e.g. clotrimazole / miconazole (<b>Not</b> nystatin as is NOT effective against dermatophytes )<sup>A+</sup></p> <p>Adults: <b>terbinafine oral</b></p> <p>Children: griseofulvin oral*</p> <p>Selenium shampoo* in severe cases may be appropriate in addition. This reduces the risk of spreading the infection to others.</p> <p>Also ketoconazole shampoo and povidone iodine</p>	<p>OD - BD</p> <p>1-2x/daily</p> <p>See BNF</p> <p>See Children's BNF for dose</p> <p>Twice a week</p>	<p>1 week<sup>A+</sup></p> <p>4 – 6 weeks<sup>A+</sup></p> <p>4 weeks</p> <p>6 – 8 weeks</p> <p>2 - 4 weeks</p>
<p>Pityriasis versicolor</p>	<p>Caused by an overgrowth of Pityrosporum orbiculare (Malassezia furfur).</p> <p>Most adults have Pityrosporum orbiculare on their skin; however, in a few people its presence results in a harmless skin disease.</p> <p>Pityrosporum orbiculare also plays a role in the development of seborrhoeic dermatitis (including cradle cap).</p> <p>Poorly responsive to terbinafine and completely unresponsive to nystatin and griseofulvin.</p>	<p>1<sup>st</sup> Line: <b>Selenium shampoo</b></p> <p>OR</p> <p>Ketoconazole shampoo</p> <p>3<sup>rd</sup> Line: itraconazole (only in severe unresponsive cases due to benefit risk ratio)</p>	<p>Apply DAILY to the affected area that has been previously wetted. Leave for 30 minutes. NB: This time period is recommended by the BNF however 30 minutes may provoke irritant dermatitis and this may be avoided by reducing time to 5-10 minutes</p> <p>After using as a wash, allow to rest for 5 minutes on wetted skin</p> <p>200mg daily</p>	<p>7 days</p> <p>5 days</p> <p>7 days</p>
<p>Intertrigo</p> <p><i>Candida albicans</i></p> <p><a href="#">Clinical Knowledge Summaries</a></p>	<p>Combination preparations containing corticosteroids e.g. trimovate cream should only be applied if there is marked inflammation. They should be applied sparingly to avoid skin atrophy on areas of thin skin (e.g. facial areas) and for a maximum of 1 week</p>	<p><b>clotrimazole 1% Cream</b></p>		

*Please refer to BNF for further information.*

APCO Approved January 2008

APCO Approved Amendments; November 2008, March 2009, September 2010

Review Date January 2010

# OXFORDSHIRE PRESCRIBING GUIDELINES FOR THE USE OF ANTIMICROBIAL AGENTS 14

## FOR PRIMARY CARE 2008

VIRAL INFECTIONS				
ILLNESS	COMMENTS	DRUG	DOSE	DURATION OF TX
Herpes Simplex	First attack non-genital and recurrent oral infection.	Topical, over the counter aciclovir can be used for mild oral herpes (cold sores).		
	First attack genital	<b>aciclovir</b>	200mg FIVE x daily	5 days
		famciclovir valaciclovir	250mg TDS 500mg BD	5 days 5 days
	Recurrent attacks of genital herpes - intermittent therapy: Specific treatments usually not beneficial as recurrences are self-limiting and generally cause minor symptoms.  Recurrent attacks of genital herpes - suppressive therapy: Only indicated if at least six recurrences per annum.	<b>aciclovir</b>  famciclovir valaciclovir	400 mg BD  250 mg BD 500 mg OD	Interrupt therapy every 6-12 months for reassessment of disease.
Varicella zoster/ Chicken pox <a href="#">Clinical Knowledge Summaries</a> & Herpes zoster/ shingles <a href="#">Clinical Knowledge Summaries</a>	If pregnant seek advice re treatment and prophylaxis  Chicken pox: Clinical value of antivirals minimal unless immunocompromised, severe pain, adult, on steroids, secondary household case <b>AND</b> treatment started <24h of onset of rash. <sup>A</sup>  Shingles: Always treat ophthalmic.  Non-ophthalmic: Treat >50 yrs if <72h of onset of rash, as post-herpetic neuralgia rare in <50 yrs but occurs in 20% >50 y <sup>A+</sup> .  <b>See below for additional advice re prophylaxis</b>	<b>aciclovir</b> or valaciclovir or famciclovir	800 mg 5x/day  1 g TDS  250 mg TDS  Child doses – see BNF	7 days  7 days 7 days

*Please refer to BNF for further information.*

APCO Approved January 2008

APCO Approved Amendments; November 2008, March 2009, September 2010

Review Date January 2010

### Treatment Advice: CHICKENPOX

**Immunocompromised Patients:** (i.e. see [Immunisation against Infectious Disease 2006](#) – for definition of immunocompromised see Section 7).

- Refer urgently to a specialist for intravenous Aciclovir.

#### Immunocompetent Patients:

- Treatment is indicated for all persons over 15 years of age (NB: [Chickenpox in adults – Clinical management](#)).
- Treatment should start as soon as possible, preferably within 24 hours and certainly within 72 hours of the onset of the rash.
- Treat adults for 7 days with **Aciclovir 800mg 5 x daily** or Valaciclovir 1 gm tds or Famciclovir 500 mg tds.
- Valaciclovir and Famciclovir are not yet licensed for the treatment of chicken pox, or for use in children, but their use is endorsed by the Infectious Disease Physicians in Oxford.
- Pregnant women may have more serious disease and the benefits of treatment should be balanced against any potential harm to the foetus. (NB: [Chickenpox in adults – Clinical management](#)).
- Chickenpox in pregnancy should be treated with Aciclovir 800 mg 5 times daily for 7 days. There is no evidence so far that Aciclovir causes congenital abnormalities in humans.
- Additional risk factors for chicken pox pneumonitis include smoking, chronic lung disease, underlying immunosuppression and > 36 weeks gestation.
- Symptoms/signs of more severe chicken pox include respiratory symptoms, haemorrhagic rash, bleeding, densely cropping vesicles, any neurological changes, and persisting fever with new vesicles erupting more than 6 days after onset.
- Individuals with additional risk factors or symptoms/signs of more severe disease should be referred to the local infectious diseases unit for consideration of iv Aciclovir.
- These management guidelines also apply to pregnant women who develop Chickenpox despite being given VZIG.

#### Children and neonates:

- Treatment is indicated for all children with conditions predisposing to serious disease (including those taking oral steroids for ≥14 days, chronic or severe skin disease, asthma or other cardiopulmonary disease, diabetes, or other chronic illnesses).
- Children who require treatment and neonates who develop chicken pox should be referred urgently to the local paediatric department for advice and treatment.

### Treatment Advice: SHINGLES

**Immunocompromised:** (i.e. see [Immunisation against Infectious Disease 2006](#) – for definition of immunocompromised see Section 7).

- Refer to specialist as intravenous therapy may be required.

#### Immunocompetent including pregnancy:

- Refer all patients with eye involvement to an Ophthalmologist.
- Treat all patients > 50 years old with Aciclovir 800 mg 5 times daily, Famciclovir 250 mg tds or 750 mg once daily, or Valaciclovir 1 g tds for 7 days. Commence within 72 hours of onset of rash or up to one week after onset for ophthalmic zoster.

### Prophylaxis Advice: High Risk Contacts of patients with Chickenpox or Shingles

High risk contacts are patients without a definite history of Chickenpox or Shingles and a negative test for varicella antibody, and who have had a significant contact with Chickenpox or Shingles ([Immunisation against Infectious Disease 2006](#)) and are at high risk of serious disease.

These include:

1. Immunocompromised patients (see Immunisation against Infectious Disease 2006 )
2. Pregnant women.
3. Neonates of mothers who develop Chickenpox between 7 days before and 7 days after delivery.
4. Neonates within 7 days of birth where the mother is non immune.

Contact the Virology SpR/Consultant 01865-221918 or for specific advice, to arrange antibody testing and for supplies of VZIG.

If patient is eligible for varicella-zoster immune globulin (VZIG) this will be prescribed by the Virology SpR/consultant. Give varicella-zoster immune globulin (VZIG) 250 mg (1 vial) to 1000mg (4 vials) intramuscularly depending on age. Give preferably within 96 hours of contact, but may be efficacious up to 10 days post exposure. VZIG does not prevent infection but may reduce severity.

### HEPATITIS B

- All patients with chronic infection (HbsAg+ve for more than 6 months) should be referred for assessment and consideration of treatment by a hepatologist.
- Contact Follow Up has a significant role to play. Household and sexual contacts of HbsAg+ve patients should be offered HBV vaccine and advice on minimising risk of spread. Further guidance is available from the Health Protection Unit on 01865 226858.

### HEPATITIS C

- Patients who are both hepatitis C antibody and Hepatitis C RNA positive should be referred for assessment and consideration of treatment by a hepatologist.

*Please refer to BNF for further information.*

APCO Approved January 2008

APCO Approved Amendments; November 2008, March 2009, September 2010

Review Date January 2010

<b>MENINGITIS</b>				
Suspected meningococcal disease or meningococcal sepsis or infection in a known asplenic patient <a href="#">HPA</a> <i>Meningococcus Pneumococcus</i>	<b>Transfer all patients to hospital immediately.</b> Administer benzylpenicillin prior to admission, unless history of life threatening reaction to penicillin. <sup>B</sup> . Ideally administer IV but IM if a vein cannot be found.  Cefotaxime is an alternative in penicillin allergy. Chloramphenicol is an alternative if history of anaphylaxis to penicillin or to cephalosporins	IV or IM benzylpenicillin	Adults & children 10 yr and over: <b>1200 mg</b>  Children 1 - 9 yr: <b>600 mg</b>  Children <1 yr: <b>300 mg</b>	
Meningococcal meningitis prophylaxis	Avoid rifampicin and ciprofloxacin in pregnancy.  For all specialist advice, including advice in pregnancy and who should receive prophylaxis please contact the Health Protection Unit on 01865 226858	rifampicin          ciprofloxacin	Adults 600mg BD  Children 10mg / kg BD  Under one year 5mg / kg BD  Adults 500mg as a single dose	2 days  2 days  2 days  Single dose
<b>ASPLENIA</b>				
Prophylaxis for asplenia	Lifelong prophylaxis should be offered in all cases, but is especially important for first 2 yrs post-splenectomy for all children <16y and where there is underlying impaired immunity. <b>Note: Antibiotic prophylaxis is not fully reliable and vaccines should be considered.</b>	<b>phenoxymethylpenicillin</b> (Adult Dosage) <b>erythromycin</b> (Adult Dosage) For children's doses, please refer to BNF	500 mg BD  250mg - 500 mg OD	
<p>1. A course of amoxycillin (500mg tds.) (For non-penicillin hypersensitive patients) to be kept at home to be taken at first symptom of infection.</p> <p>2. Patients taking prophylactic erythromycin should increase their dose to therapeutic range (500mg qds.) at first symptom of infection. Patients should receive (prior to splenectomy if possible) pneumococcal vaccine, Hib vaccine and Meningococcal conjugated C vaccines (DOH recommendations).</p>				

**Advice and comments on these guidelines have been provided by:**

Dr Ian Bowler, Consultant Microbiologist  
 Dr Bridget Atkins, Consultant Microbiologist  
 Dr Katie Jeffery, Consultant Microbiologist  
 Dr Andrew Pollard, Consultant Paediatrician  
 Dr Jackie Sherrard, GUM Consultant  
 Dr Sue Cooper, Consultant Dermatologist  
 Dr John Reed, Consultant Dermatologist  
 Dr Susan Burge, Consultant Dermatologist  
 Dr Vanessa Venning, Consultant Dermatologist  
 Dr David Wise, GP  
 Dr Chris Evans, Oxfordshire PCT Dental Adviser  
 Estelle Moulder, ORH Microbiology Pharmacist  
 Rhoda Welsh, ORH Paediatric Pharmacist  
 Sian Hills, Oxfordshire PCT Head of Prescribing & Therapeutics  
 Dr Noel McCarthy, Consultant in Communicable Disease Control, Thames Valley Health Protection Unit

**Advice and comments on these guidelines have also been sought from:**

Dr Grant Bates, ENT Consultant

**Suggestions for Updates should be addressed to:** Sian Hills, Head of Prescribing and Therapeutics, or to a member of the Medicines Management Team, Oxfordshire PCT on 01865 336725.

*Please refer to BNF for further information.*

*Please refer to BNF for further information.*

APCO Approved January 2008

APCO Approved Amendments; November 2008, March 2009, September 2010

Review Date January 2010