Outpatient Antibiotic Handbook

Created by Blank Children’s Hospital’s Antibiotic Stewardship Team

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Last Revised: March 13, 2023
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Please, see full list of Blank Children’s Hospital’s Clinical Practice Guidelines at: [https://www.unitypoint.org/blankchildrens/pathways.aspx](https://www.unitypoint.org/blankchildrens/pathways.aspx)
Acute sore throat AND ≥ 3 years old

Is the patient without viral symptoms?

≥ 1 exam findings consistent with Strep throat?

Obtain Rapid Antigen Detection Test (Point of Care Rapid Strep)

Viral symptoms:
- Conjunctivitis
- Rhinorrhea/nasal congestion
- Cough
- Diarrhea
- Hoarseness
- Oral ulcers
- Viral rash

Exam findings consistent with streptococcal pharyngitis:
- Tonsillopharyngeal erythema with or without exudates
- Tender, enlarged anterior cervical nodes
- Scarlatiniform rash
- Palatal petechiae
- Red and swollen uvula

Notes:
- Strep throat uncommon and rheumatic fever rare in children < 3 years of age
- Only test children < 3 years of age who have symptoms & exam findings of Strep throat AND a household contact with active/recent confirmed Strep throat. Likely asymptomatic carriers if test positive without meeting above criteria.
- Fever in absence of sore throat —> Strep throat very unlikely

First Line Options:
- Amoxicillin 50 mg/kg PO once daily x 10 days (max 1000 mg/day)
- Penicillin G benzathine IM shot:
  - < 27 kg: 600,000 units x 1
  - ≥ 27 kg: 1.2 million units x 1
- Oral penicillin VK:
  - < 27 kg: 250 mg PO BID x 10 days
  - ≥ 27 kg: 500 mg PO BID x 10 days

Non-severe penicillin allergy (e.g., hives):
- Consider referral to allergy for antibiotic challenge
- Cephalexin 40 mg/kg/day PO div BID x 10 days (max 1000 mg/day)

Severe penicillin allergy (e.g., anaphylaxis):
- Clindamycin 30 mg/kg/day div TID x 10 days (max 900 mg/day)

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- Clindamycin 30 mg/kg/day div TID x 10 days (max 900 mg/day)

Do NOT Use:
- Azithromycin—high rates of Group A streptococcal resistance
- 2nd (cefuroxime) or 3rd generation (cefdinir, cefixime, cefpodoxime, ceftriaxone) cephalosporins . All are unnecessarily broad. 100% of Group A streptococcus covered by amoxicillin/penicillin and 1st generation cephalosporins (cephalexin).
- Amoxicillin-clavulanate—Group A streptococcus is universally susceptible to amoxicillin, so addition of clavulanate provides no additional Group A streptococcal coverage
- Trimethoprim-sulfamethoxazole, doxycycline, fluoroquinolones
- Aspirin or corticosteroids

Supportive cares. Do NOT start antibiotics. Await throat culture results.

Culture positive for Group A streptococcus?

No antibiotics indicated

Likely viral etiology. No testing indicated. Supportive cares.

No testing indicated. Supportive cares.

Positive

Negative
Any conditions that could complicate AOM Treatment?

Yes

Do not use algorithm

No

Treat ear pain and assess for AOM

Does the patient meet AAP criteria for AOM?

No

Ear effusion without signs of infection. No antibiotics.

Yes

Severe or non-severe symptoms?

Severe symptoms:
- Otitis <48 hours OR
- Temperature ≥ 39°C (102.2°F) OR
- Moderate or severe otalgia

Start antibiotics

Non-severe symptoms:
- Mild otalgia <48 hours AND
- Temperature <39°C (102.2°F)

Severe or non-severe symptoms?

No

Bilateral AOM?

Yes

Start antibiotics

No

Safety-net Antibiotic Prescription (SNAP)
- Provide empiric antibiotic prescription and caregiver fills if symptoms worsen or fail to improve in 48-72 hours.
- Note to pharmacy: Fill upon patient request

6-23 months of age

<6 months of age

≥24 months of age

Conditions that complicate AOM Treatment (NOT all-inclusive list):
- Immunodeficiencies
- Malignancy
- Cochlear implants present
- Tympanostomy tubes present
- Fever in child <60 days of age—see Febrile Infant Guidelines

Criteria for Diagnosis of AOM

Middle ear effusion PLUS ONE:
- Moderate or severe bulging of TM
- New onset otorrhea (not due to otitis externa)
- Mild bulging of TM AND recent otalgia
- Mild bulging of TM AND significant erythema of TM
Acute Otitis Media (AOM) Treatment

- Oral cephalosporins are alternative options for first line treatment in children who cannot receive amoxicillin.
- However, these oral cephalosporins have inferior coverage for Streptococcus pneumoniae due to nonoptimal pharmacokinetic/pharmacodynamic properties (e.g., short half-lives, low bioavailability).
- Therefore, amoxicillin-clavulanate failure should **NOT** be treated with oral cephalosporin monotherapy (see below).
- Do **NOT** use azithromycin for AOM due to high rates of pneumococcal resistance.
- For amoxicillin-clavulanate, consider using ES formulation: 600 mg-42.9mg/5mL to decrease diarrhea.

### First Line Treatment

**No penicillin allergy:**
- No concurrent purulent conjunctivitis or amoxicillin in last 30 days:
  - Amoxicillin 80-90 mg/kg/day PO divided BID (max 875 mg/dose)
- Concurrent purulent conjunctivitis present or amoxicillin in last 30 days:
  - Amoxicillin-clavulanate 80-90 mg/kg/day PO divided BID (max 875 mg amoxicillin component/dose)

**Mild/moderate penicillin allergy (e.g., hives):**
- Consider outpatient referral to allergy for antibiotic challenge
- Cefdinir 14 mg/kg/day PO divided **BID** (max 300 mg/dose) (**once daily dosing suboptimal** for many pneumococcal and non-pneumococcal isolates) **OR**
- Cefuroxime 30 mg/kg/day PO divided BID (max 500 mg/dose) - only available in tablet form **OR**
- Cefpodoxime 10 mg/kg/day PO divided BID (max 200 mg/dose) - cost & availability may be restrictive **OR**
- Ceftriaxone 50 mg/kg/dose IM or IV x 1 dose (max 1000 mg/dose)

**Severe penicillin allergy (e.g., anaphylaxis):**
- No concurrent purulent conjunctivitis: Clindamycin 30 mg/kg/day PO divided TID (max 450 mg/dose)
- Concurrent purulent conjunctivitis present: Discuss with pediatric infectious diseases

### Antibiotic Selection After Treatment Failure
(Treatment Failure = No Clinical Improvement After 48-72 Hours)

**Failed amoxicillin:**
- Amoxicillin-clavulanate 80-90 mg/kg/day PO divided BID (max 875 mg amoxicillin component/dose)

**Failed amoxicillin-clavulanate:**
- Ceftriaxone 50 mg/kg IM or IV once daily (max 1000 mg/dose) x 3 days **OR**
- Clindamycin 30 mg/kg/day PO divided TID (max 450 mg/dose) **PLUS**
  - Cefdinir **OR** cefuroxime **OR** cefpodoxime (see doses above)

**Failed oral cephalosporin OR IM ceftriaxone x 1 dose:**
- Ceftriaxone 50 mg/kg IM or IV once daily (max 1000 mg/dose) x 3 days **OR**
- Clindamycin 30 mg/kg/day PO divided TID (max 450 mg/dose) - only use if no purulent conjunctivitis present

### Duration

- 10 days if: < 2 years old **OR** severe AOM **OR** recurrent AOM **OR** perforation of TM
- 7 days if: 2-5 years old **AND** non-severe symptoms
- 5-7 days if: > 6 years **AND** non-severe symptoms
Uncomplicated Community-Acquired Pneumonia (CAP) > 4 Months of Age

- Clinical findings: Fever ≥100.4°F, lower respiratory symptoms, & focal findings on auscultation (exclude wheezing)
- Chest x-ray not typically needed among immunocompetent children ≥ 4 months if well-appearing and not requiring hospitalization
- Uncomplicated CAP: No significant pleural effusion, empyema, necrotizing pneumonia, lung abscess, sepsis, shock, current or impending respiratory failure
- Do NOT use algorithm if: < 4 months of age, immunocompromised, receiving home mechanical ventilation, tracheostomy dependent, hospitalized within past 7 days, acute asthma exacerbation, cystic fibrosis, clinical concern for aspiration pneumonia

### Treatment

**First Line:**
- Amoxicillin 90 mg/kg/day PO divided BID (max 1000 mg/dose)

**Mild/Moderate penicillin allergy (e.g., hives):**
- Consider outpatient referral to allergy for antibiotic challenge
- Clindamycin 30 mg/kg/day PO divided TID (max 600 mg/dose)
  - Often best option among children who cannot swallow pills due to limited availability and cost of liquid cefpodoxime and cefprozil
- Cefuroxime 30 mg/kg/day PO divided BID (max 500 mg/dose) (only available in tablet form)
- Cefpodoxime 10 mg/kg/day PO divided BID (max 200 mg/dose) (cost & availability may be restrictive)
- Cefprozil 30 mg/kg/day PO divided BID (max 500 mg/dose) (cost & availability may be restrictive)

**Severe penicillin allergy (e.g., anaphylaxis) or cephalosporin allergy:**
- Clindamycin 30 mg/kg/day PO divided TID (max 600 mg/dose)

**Severe penicillin allergy (e.g., anaphylaxis) or cephalosporin allergy AND inability to tolerate clindamycin:**
- Levofloxacin
  - 6 months—4 years of age: 10 mg/kg/dose PO BID (max 750 mg/day)
  - ≥ 5 years of age: 10 mg/kg PO once daily (max 750 mg/day)

**Atypical pneumonia:**
- Azithromycin 10mg/kg PO once daily on day 1 (max 500 mg/dose), then 5 mg/kg (max 250 mg/dose) once daily on days 2-5

### Duration

- **Typical/Lobar CAP:** 5 days
  - 5 days of therapy has similar clinical response to 10 days of therapy with decreased antibiotic exposure and resistance development
- **Atypical CAP:** 5 days

### Notes

- **Do NOT use cefdinir** for CAP, as it does not achieve therapeutic concentrations in lungs to treat pneumococcus
- All oral cephalosporins are inferior to high dose amoxicillin for pneumococcus
- Nearly half of pneumococcal isolates are resistant to azithromycin among children in central Iowa, so do NOT use azithromycin for typical/lobar CAP
**Uncomplicated Urinary Tract Infection (Cystitis) Children ≥ 2 years of age**

- To be uncomplicated, child must be well-appearing **AND** without fever, vomiting, or flank pain
- Obtain urinalysis with micro and urine culture
- If patient has history of UTI, empiric antibiotic therapy should be based on previous cultures if available

### Treatment

**First Line:**
- Cephalexin 50 mg/kg/day PO divided TID (max 500 mg/dose)

**Alternative Options:**
- Cefpodoxime 10 mg/kg/day PO divided BID (max 100 mg/dose) (cost & availability may be restrictive)
- Cefixime 8 mg/kg PO once daily (max 400 mg/dose) (cost & availability may be restrictive)
- Amoxicillin-clavulanate
  - < 12 years of age: 40 mg/kg/day PO divided TID (Max 500 mg amoxicillin component/dose)
  - ≥ 12 years of age: 500 mg/dose PO BID

**Cephalosporin allergy or severe penicillin allergy (e.g. anaphylaxis):**
- Consider outpatient referral to allergy for antibiotic challenge
- TMP-SMX 6-12 mg/kg/day PO divided BID (Max 160 mg TMP component/dose)
  - ~25% of *E. Coli* isolates resistant to TMP-SMX among children in central Iowa
- Nitrofurantoin 5-7 mg/kg/day PO divided every 6 hours (max 100mg/dose)

### Duration

- 5-7 days for younger children & adolescent males
- 5-7 days if using nitrofurantoin regardless of age
- 3-5 days for adolescent females NOT receiving nitrofurantoin

### Do NOT use

- **Cefdinir** for UTI due to poor urine concentration among children compared to adults
**Febrile Urinary Tract Infection (Pyelonephritis)**

**Children > 2 months of age**

- Pyelonephritis = UTI in a child with fever, vomiting, flank pain, and/or is ill-appearing
- Evaluate the need for hospitalization:
  - Possible indications: age < 2 months, ill-appearing, sepsis, vomiting, inability to tolerate oral medication, immunocompromised, failure to respond to outpatient therapy, difficulty in ensuring timely outpatient follow-up
- Obtain urinalysis with micro and urine culture
- If patient has history of UTI, empiric antibiotic therapy should be based on previous cultures if available

### Treatment

**First Line:**
- Cephalexin 75 mg/kg/day PO divided TID (max 1000 mg/dose)

**Alternative Options:**
- Cefpodoxime 10 mg/kg/day PO divided BID (max 200 mg/dose) (cost & availability may be restrictive)
- Cefixime 8 mg/kg/day PO divided BID (max 200 mg/dose or 400mg/day) (cost & availability may be restrictive)
- Amoxicillin-clavulanate
  - < 12 years of age: 40 mg/kg/day PO divided TID (max 500 mg amoxicillin component/dose)
  - ≥ 12 years of age: 875 mg/dose PO BID

**Cephalosporin allergy or severe penicillin allergy (e.g. anaphylaxis):**
- Consider outpatient referral to allergy for antibiotic challenge
- TMP-SMX 6-12mg/kg/day PO divided BID (Max 160 mg TMP component/dose)
  - ~25% of *E. Coli* isolates resistant to TMP-SMX among children in central Iowa
- Ciprofloxacin 20 mg/kg/day PO divided BID (Max 750 mg/dose)

### Duration

- 7-10 days (7 days typically adequate)

### Do NOT use

- Cefdinir due to poor urine concentration among children compared to adults
- Nitrofurantoin for pyelonephritis—concentrates well in urine but not kidneys
### Skin and Soft Tissue Infections (SSTIs) > 60 Days of Age

- Do **NOT** use this guideline if: immunocompromised, < 60 days of age, concern for deeper or necrotizing infection, post-surgical site infection, human/animal bite infection (see Human/Animal Bite Wounds Guideline), and/or meets criteria for hospitalization.
- Hospitalization criteria (NOT all-inclusive list): Sepsis/SIRS, failing outpatient treatment, inability to tolerate oral medications, difficulty ensuring timely outpatient follow-up, altered mental status.
- *Staphylococcus aureus* and *group A Streptococcus* are most common pathogens.
- MRSA risk factors: personal or family history of MRSA.
- If patient has history of MRSA abscesses, empiric antibiotic therapy should be based on previous cultures if available.

### Treatment

#### Impetigo
- Mild cases with only a few lesions
  - Topical mupirocin BID x 5 days
- Numerous lesions, perioral lesions, or outbreak affecting several people
  - First line: cephalaxin 50 mg/kg/day PO divided TID (max 500 mg/dose)
  - If personal or family history of MRSA OR severe penicillin/cephalosporin allergy
    - Consider outpatient referral to allergy for antibiotic challenge if allergy present
    - Clindamycin 30 mg/kg/day PO divided TID (max 450 mg/dose) **OR**
    - TMP-SMX 8-12 mg/kg/day PO divided BID (max 160 mg TMP component/dose)
      - May not cover group A *Streptococcus*
  - Duration: 5-7 days

#### Nonpurulent Cellulitis or Erysipelas
- First line: cephalaxin 50 mg/kg/day PO divided TID (max 500 mg/dose)
- If personal or family history of MRSA OR severe penicillin/cephalosporin allergy
  - Consider outpatient referral to allergy for antibiotic challenge if allergy present
  - Clindamycin 30 mg/kg/day PO divided TID (max 450 mg/dose) **OR**
  - TMP-SMX 8-12 mg/kg/day PO divided BID (max 160 mg TMP component/dose)
  - May not cover group A *Streptococcus*
  - Duration: 5-7 days

#### Abscess
- I & D with stab or crisscross incision; attempt to place loop drain if able. **SEND CULTURE.**
- First line:
  - Clindamycin 30 mg/kg/day PO divided TID (max 450 mg/dose) **OR**
  - TMP-SMX 8-12 mg/kg/day PO divided BID (max 160 mg TMP component/dose)
  - Consider narrowing antibiotic choice if culture results MSSA or group A *Streptococcus* (GAS), as rates of MSSA and GAS resistance to clindamycin are increasing among children in central Iowa
    - For MSSA—cephalexin 50 mg/kg/day PO divided TID (max 500 mg/dose)
    - For GAS—amoxicillin 45 mg/kg/day PO divided BID (max 875 mg amoxicillin/dose)
  - Duration: 5-7 days
## Diagnosis

- **Exclusion criteria:** immunocompromised, cystic fibrosis, ciliary dyskinesia, < 1 year of age, previous sinus surgery, sinusitis complications present
- **Sinusitis complications:** subperiosteal abscess, orbital cellulitis or abscess, subdural/epidural empyema, brain abscess, meningitis, cavernous or sagittal sinus thrombosis, Pott puffy tumor (frontal bone osteomyelitis)
- **Diagnosis:** 3 ways to make presumptive diagnosis of acute bacterial sinusitis in children:
  1. Persistent illness—nasal discharge and/or daytime cough lasting > 10 days **WITHOUT** improvement
  2. Worsening course—worsening or new onset nasal discharge, daytime cough, or fever after initial improvement
  3. Severe onset—concurrent fever (≥ 39°C/102.2°F) & purulent nasal discharge for ≥ 3 consecutive days

## Treatment

**Non-severe disease AND no antibiotics within previous 30 days AND does not attend child care AND > 2 years old:**

- **No penicillin allergy:** amoxicillin 80-90 mg/kg/day PO divided BID (max 875 mg/dose)
- **Mild penicillin allergy (e.g., hives):**
  - Consider outpatient referral to allergy for antibiotic challenge
  - Cefpodoxime 10 mg/kg/day PO div BID (max 200 mg/dose) (cost/availability may be restrictive)
  - Cefuroxime 30 mg/kg/day PO divided BID (max 500 mg/dose) (only available in tablet form)
  - Cefixime 8 mg/kg/day PO divided BID (max 200 mg/dose) PLUS clindamycin 30 mg/kg/day PO divided TID (max 450 mg/dose)
    - Cefixime cost/availability may be restrictive
- **Severe penicillin allergy (e.g., anaphylaxis):** Levofloxacin 10 mg/kg/dose PO BID if < 5 years of age **OR** 10 mg/kg/dose PO once daily if ≥ 5 years of age (max 500 mg/day for all ages)

**Severe disease OR mild-moderate disease with ANY of the following: received antibiotics within previous 30 days, attends child care, or < 2 years of age:**

- Amoxicillin-clavulanate 80-90 mg/kg/day PO divided BID (max 875 mg amoxicillin/dose)
  - Consider ES formulation: 600 mg-42.9mg/5mL to decrease clavulanate-associated diarrhea

## Duration

- 10-14 days (10 days typically adequate)

## Notes

- Bacterial sinusitis is uncommon in kids < 2 years old
- Do **NOT** use:
  - **Cefdinir**—does not achieve therapeutic concentrations in sinuses to treat pneumococcus
  - **Azithromycin**—high rates of pneumococcal resistance
**Human/Animal Bite Wounds**

- Evaluate need for Tetanus and/or Rabies prophylaxis
- Copious irrigation/cleaning for all bite wounds
- If no signs of infection after bite, provide antibiotic prophylaxis for those with any of the following:
  - Moderate or severe bite wounds, especially if edema or crush injury present
  - All face, hand, foot, or genital area bite wounds
  - Puncture wounds
  - Wounds in immunocompromised, asplenic, or advanced liver disease patients
  - Cat bite wounds
- Antibiotic prophylaxis NOT needed for mild injuries where skin is abraded—cleansing of wounds is sufficient
- If signs of infection after bite:
  - Aerobic and anaerobic culture of purulent material if present
  - Start antibiotic therapy

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### Antibiotic Selection

**First Line:**
- Amoxicillin-clavulanate 45 mg/kg/day PO divided BID (max 875 mg amoxicillin component/dose)

**Penicillin Allergy:**
- Consider outpatient referral to allergy for antibiotic challenge
- Clindamycin 30 mg/kg/day PO divided TID (max 450 mg/dose) **PLUS**
  - TMP-SMX 8-12 mg/kg/day PO divided BID (max 160 mg TMP component/dose) **OR**
  - Doxycycline 4.4 mg/kg/day PO divided BID (max 100 mg/dose)

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### Duration

- **Prophylaxis:** 3 days
- **Treatment:** 5-10 days

### Notes

- Primary wound closure **NOT** recommended except:
  - Wounds to face—needs copious irrigation & cautious debridement prior to primary closure
- Consider loosely approximating larger bite wounds
- **DO NOT** use tissue adhesive/skin glue on any bite wounds
Dental Abscess

- Uncomplicated dental abscess—has limited, localized inflammation of surrounding tissues
- Complicated dental abscess—has diffuse facial edema and/or facial cellulitis
- Significant complications — periorbital or orbital cellulitis, sinusitis, Ludwig angina, deep neck space infection, osteomyelitis of the jaw, and rarely meningitis
- Consider hospitalization if ill-appearing/sepsis, inability to tolerate oral antibiotic, significant complication (see above), etc.
- If child is immunocompromised, discuss with pediatric infectious diseases

Treatment

Abscess with limited, localized inflammation
- First line = amoxicillin 50 mg/kg/day PO divided TID (max 500 mg/dose)
  - If treatment failure after 2-3 days of amoxicillin
    - Amoxicillin-clavulanate 50 mg/kg/day PO divided TID (max 500 mg amoxicillin component/dose)
- Penicillin allergy or severe cephalosporin allergy (e.g., anaphylaxis)
  - Consider outpatient referral to allergy for antibiotic challenge
  - Clindamycin 30 mg/kg/day PO divided TID (max 450 mg/dose)

Abscess with diffuse facial edema and/or facial cellulitis WITHOUT significant complication
- First line = amoxicillin-clavulanate 50 mg/kg/day PO divided TID (max 500 mg amoxicillin component/dose)
- Penicillin allergy or severe cephalosporin allergy (e.g., anaphylaxis)
  - Consider outpatient referral to allergy for antibiotic challenge
  - Clindamycin 30 mg/kg/day PO divided TID (max 450 mg/dose)

Dental referral
- All children with dental abscess require an urgent dental referral

Duration
- 7 days
### Cervical Lymphadenitis

- Bacterial lymphadenitis is typically unilateral, tender, and often with overlying erythema and warmth of skin.
  - Treat with antibiotic therapy
  - *Staphylococcus aureus* and group A *Streptococcus* are most common pathogens
  - Consider anaerobic organisms if poor dental hygiene, periodontal disease/abscess present
  - Young infants (< 90 days of age) can suffer cellulitis-adenitis syndrome from group B *Streptococcus* (GBS). Many will have bacteremia and/or meningitis, and all require admission for evaluation and treatment.

- Bilateral lymphadenitis is typically viral and can be observed without antibiotic therapy

- *Bartonella henselae* typically causes subacute/chronic unilateral lymphadenitis—often kitten/cat scratch
  - Overlying skin typically not erythematous or warm but can suppurate

- Nontuberculous *Mycobacterium* (NTM) causes subacute/chronic unilateral lymphadenitis in children 1-5 years
  - Overlying skin often becomes dark red/purple in color

### Treatment

**First Line in children WITHOUT poor dental hygiene, periodontal disease/abscess:**
- Cephalexin 50-75 mg/kg/day PO divided TID (max 1000 mg/dose)

**First Line in children WITH poor dental hygiene, periodontal disease/abscess:**
- Amoxicillin-clavulanate 45 mg/kg/day PO divided BID (max 875 mg amoxicillin component/dose)

**Cephalosporin allergy**
- Consider outpatient referral to allergy for antibiotic challenge
- Clindamycin 30 mg/kg/day PO divided TID (max 450 mg/dose)

**MRSA concern (personal or family history of MRSA)**
- Clindamycin 30 mg/kg/day PO divided TID (max 450 mg/dose)

**Concern for Bartonella (subacute/chronic presentation and cat scratch)**
- Send Bartonella antibodies
- Azithromycin 10mg/kg PO once daily on day 1 (max 500 mg/dose), then 5 mg/kg (max 250 mg/dose) once daily on days 2-5

**Concern for Nontuberculous *Mycobacterium* (NTM)**
- Referral to pediatric ENT and pediatric infectious diseases

### Duration

- Duration: 5-7 days
- Can adjust course based on response
References


DISCLAIMER: The content within the Outpatient Antibiotic Handbook is based on publicly available medical evidence and/or consensus opinion of the Antibiotic Stewardship Team and other contributing authors at Blank Children’s Hospital at the time of publication. The above guidelines are meant to be a guide for practitioners and may need to be adapted for each specific patient based on the practitioner’s professional judgment, consideration of any unique circumstances, needs of individual patients/families, and/or the availability of various resources at the healthcare institution where the patient is located. These guidelines are not intended to constitute medical advice or treatment, or to create a doctor-patient relationship between/ among Blank Children’s Hospital, its physicians, and the individual patients in questions. Blank Children’s Hospital or authors of these guidelines do not represent or warrant that the content of these guidelines are in every respect accurate or complete, or that one or more of them apply to a particular patient and/or medical problem. Blank Children’s Hospital and the authors of these guidelines are not responsible for any errors or omissions in these guidelines, or for any outcomes a patient might experience where a clinician consulted one or more guidelines in connection with providing care for that patient.
### Antibiogram (Blank) January 1, 2021 - June 30, 2022

#### Gram-Negative Organisms

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<th>Organism</th>
<th>NO. of Isolates</th>
<th>Ampicillin</th>
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† Please note that a minimum of 30 isolates is necessary to obtain statistical significance.

### Gram-Positive Organisms

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<th>Organism</th>
<th>NO. of Isolates</th>
<th>Ampicillin</th>
<th>Ceftriaxone</th>
<th>Clindamycin</th>
<th>Doxycycline</th>
<th>Erythromycin</th>
<th>Levofloxacin</th>
<th>Oxacillin</th>
<th>Penicillin</th>
<th>Tetracycline</th>
<th>Trimethoprim/Sulfamethoxazole</th>
<th>Vancomycin</th>
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†† Please note inability to calculate ceftriaxone susceptibility percentages for Pneumococcal CNS disease due to low number of isolates.