

# The Sanford Guide for Antimicrobial Therapy 2016: A Summary of Antimicrobial Therapy for Respiratory Pathogens<sup>1</sup>

## BACTERIAL TARGETS:

<i>Chlamydomphila pneumoniae</i>		<i>Legionella pneumophila</i>	
<b>Recommended</b>	Doxycycline	<b>Recommended</b>	Levofloxacin or Moxifloxacin
<b>Alternative</b>	Erythromycin, Fluoroquinolone	<b>Alternative</b>	Azithromycin
<b>Note/comments</b>	Azithromycin & Clarithromycin are also effective.	<b>Note/comments</b>	Telithromycin are active <i>in vitro</i> . <sup>1</sup>
<i>Mycoplasma pneumoniae</i>			
<b>Recommended</b>	Doxycycline		
<b>Alternative</b>	Azithromycin and Minocycline		
<b>Note/comments</b>	Clindamycin & $\beta$ lactams are <b>not</b> effective due to increased macrolide resistance. <sup>1</sup>		

## VIRAL TARGETS:

Adenovirus		
<b>Recommended</b>	Cidofovir	
<b>Alternative</b>	Ganciclovir and Valganciclovir: Possible activity	
	Outpatient	Inpatient
<b>Infants and children, ages 3 months to 18 yrs</b>	<b>Recommended:</b> Amoxicillin  <b>Alternative:</b> <ul style="list-style-type: none"> <li>Azithromycin</li> <li>Amoxicillin Clavulanate</li> </ul>	<b>Recommended:</b> <ul style="list-style-type: none"> <li>Fully immunized: Ampicillin</li> <li>Not fully immunized: Cefotaxime</li> </ul> <b>Alternative:</b> Fully immunized: Cefotaxime
<b>Note/comments</b>	Ribavirin has had mixed activity; appears restricted to group C serotypes. Vidarabine and Ganciclovir have <i>in vitro</i> activity against Adenovirus; little to no clinical data. <sup>1</sup>	
Rhinovirus		
<b>Recommended</b>	Ipratropium bromide and Clemastine	
	Outpatient	Inpatient
<b>Infants and children, ages 3 months to 18 yrs</b>	<b>Recommended:</b> Amoxicillin	<b>Recommended:</b> <ul style="list-style-type: none"> <li>Fully immunized: Ampicillin</li> <li>Not fully immunized: Cefotaxime</li> </ul>
<b>Note/comments</b>	Public health advisory recommending that three over-the-counter cold remedy products containing zinc should not be used because of multiple reports of permanent anosmia. <sup>2</sup>	
Influenza A&B		
<b>Recommended</b>	<ul style="list-style-type: none"> <li>Zanamivir (Relenza) - Patients <math>\geq</math> 7 yrs of age</li> <li>Oseltamivir (Tamiflu) - Patients <math>\geq</math> 1 yr</li> <li>Peramivir (Rapivab)</li> </ul>	
<b>Note/comments</b>	Amantadine and Rimantadine are FDA-approved for treatment and chemoprophylaxis of influenza A virus infections among adults and children aged 1 year and older; however, because of resistance in circulating influenza A virus strains, amantadine and rimantadine are not currently recommended for antiviral treatment or chemoprophylaxis of influenza. <sup>3</sup>	

Parainfluenza Virus 3		
	Outpatient	Inpatient
Infants, ages 1-3 months	<b>Recommended:</b> <ul style="list-style-type: none"> <li>Erythromycin</li> <li>Azithromycin</li> </ul>	<b>Recommended:</b> <ul style="list-style-type: none"> <li>If afebrile: Erythromycin or Azithromycin</li> <li>If febrile: Cefotaxime</li> </ul>
Infants and children, ages 3 months to 18 yrs	<b>Recommended:</b> Amoxicillin	<b>Recommended:</b> <ul style="list-style-type: none"> <li>Fully immunized: Ampicillin</li> <li>Not fully immunized: Add Cefotaxime</li> </ul>
	<b>Alternative:</b> <ul style="list-style-type: none"> <li>Azithromycin</li> <li>Amoxicillin-Clavulanate</li> </ul>	<b>Alternative:</b> Fully immunized: Cefotaxime

Respiratory Syncytial Virus		
Children < 24 months old with chronic lung disease, premature infants, children with congenital heart disease	Palivizumab	
Children (with severe RSV), Adults	Nebulized Ribavirin	
Immunocompromised adults	Nebulized Ribavirin + RSV immune globulin	
	Outpatient	Inpatient
Infants and children, ages 3 months to 18 yrs	<b>Recommended:</b> Amoxicillin	<b>Recommended:</b> <ul style="list-style-type: none"> <li>Fully immunized: Ampicillin</li> <li>Not fully immunized: Cefotaxime</li> </ul>
	<b>Alternative:</b> <ul style="list-style-type: none"> <li>Azithromycin</li> <li>Amoxicillin-Clavulanate</li> </ul>	<b>Alternative :</b> Fully immunized: Cefotaxime
<b>Note/comments</b>	Guidance from the Academy of Pediatrics recommends use of Palivizumab only in newborn infants born at 29 weeks gestation (or earlier) and in special population (e.g., infants with significant heart diseases). <sup>1</sup>	

Coronavirus	
<b>Recommended</b>	Zanamivir or Oseltamivir (Tamiflu)
<b>SARS-CoV</b>	Ribavirin: Ineffective. Interferon alfa ± steroids-small case series
<b>MERS-CoV</b>	Increased 14 day survival with Ribavirin po +PEG IFN

Human Metapneumovirus	
<b>Recommended</b>	None, no proven antiviral therapy is currently available. Intravenous Ribavirin used anecdotally with variable results.
<b>Note/comments</b>	Treatment includes routine symptomatic care based on symptoms, with respiratory support when required. <sup>4</sup>

Human Bocavirus <sup>5</sup>	
<b>Recommended</b>	None, supportive care only.
<b>Note/comments</b>	No specific anti-bocavirus treatments are available.

## REFERENCES

- Gilbert DN, Chambers HF, Eliopoulos GM, et. al. The Sanford Guide to Antimicrobial Therapy 2016. 46th Ed. Virginia. Antimicrobial Therapy, Incorporated. 2016.
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