

Antimicrobial Therapy Guide 2017:

A Summary of Antimicrobial Therapy Options for Respiratory Pathogens

Bacterial Targets

*Chlamydomphila pneumoniae*¹

Recommended	Doxycycline
Alternative	Erythromycin, Fluoroquinolone
Notes/Comments	Azithromycin and Clarithromycin are also effective.

*Mycoplasma pneumoniae*¹

Recommended	Doxycycline
Alternative	Azithromycin and Minocycline
Notes/Comments	Clindamycin and β -lactams are not effective due to increasing macrolide resistance.

*Legionella pneumophila*¹

Recommended	Levofloxacin or Moxifloxacin
Alternative	Azithromycin
Notes/Comments	Telithromycin is active <i>in vitro</i> .

Viral Targets

Adenovirus¹

Drug	Cidofovir (in severe cases of pneumonia or post-hematopoietic stem cell transplantation [HSCT])
Notes/Comments	Ribavirin has had mixed activity; appears restricted to Group C serotypes. Vidarabine and Ganciclovir are active <i>in vitro</i> .

Rhinovirus¹

Drug	No antiviral treatment indicated. Symptomatic treatment: <ul style="list-style-type: none"> ▪ Ipratropium bromide ▪ Clemastine
Notes/Comments	Public health advisory - Over-the-counter cold remedy products containing zinc (e.g., Zicam) should not be used due to multiple reports of permanent anosmia.

Influenza A & B¹

Drug	<ul style="list-style-type: none"> ▪ Zanamivir (Relenza) - Patients \geq 7 yrs of age ▪ Oseltamivir (Tamiflu) - Patients \geq 1 yr of age ▪ Peramivir (Rapivab)
Notes/Comments	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, due to resistance in circulating influenza A virus strains, Amantadine and Rimantadine are not currently recommended for antiviral treatment or chemoprophylaxis of influenza. ²

Respiratory Syncytial Virus¹	
Drug	Palivizumab - Children < 24 months old with chronic lung disease; premature infants, children with congenital heart disease <ul style="list-style-type: none"> • Nebulized Ribavirin - Children (with severe RSV), Adults • Nebulized Ribavirin + RSV immune globulin
Note/Comments	Antibiotics are not useful; mainstay of therapy is oxygen and hydration.
Human Metapneumovirus¹	
Drug	No treatment indicated due to lack of proven therapy. Intravenous Ribavirin has been used anecdotally with variable results.
Note/Comments	Treatment includes routine symptomatic care with respiratory support when required. ³
Coronavirus¹	
SARS-CoV	Ribavirin: Ineffective Interferon alfa ± steroids (small case series)
MERS-CoV	Increased 14 day survival with Ribavirin po + PEG-IFN
Note/Comments	There are no specific treatments for illnesses caused by human coronaviruses. Most people with common human coronavirus illness will recover on their own. ⁴
Human Bocavirus⁵	
Drug	No treatment indicated. Supportive care only.
Note/Comments	No specific anti-bocavirus treatments are available.
Human Parainfluenza Viruses⁶	
Drug	No treatment indicated.
Note/Comments	There is no specific antiviral treatment for HPIV illness. Most people with HPIV illness will recover on their own. Treatment includes routine symptomatic care.

References

1. Gilbert DN, Chambers HF, Eliopoulos GM, Saag MS, Pavia AT, et. al. The Sanford Guide to Antimicrobial Therapy 2017. 47th Ed. Virginia. Antimicrobial Therapy, Incorporated. 2017.
2. Antiviral Dosage. Centers for Disease Control and Prevention (Internet). Cited 2016 December. Available from: <http://www.cdc.gov/flu/professionals/antivirals/antiviral-dosage.htm>.
3. Human Metapneumovirus Treatment & Management. Medscape (Internet). Cited 2017 March. Available from: <http://emedicine.medscape.com/article/237691-treatment>.
4. Coronavirus. CDC (Internet). Cited 2017 March. Available from: <http://www.cdc.gov/coronavirus/about/>.
5. Bocavirus Infection: What is the Treatment for Bocavirus Infection? MedicineNet (Internet). Cited 2016 December. Available from: http://www.medicinenet.com/bocavirus_infection/.
6. Human Parainfluenza Viruses (HPIVs). CDC (Internet). Cited 2017 March. Available from: <http://www.cdc.gov/parainfluenza/about/prevention-treatment.html>.