



South Dakota Department of Health

Clinical Considerations in Respiratory Infections



By Keegan Mason and Associates, LLC
Infectious Disease Healthcare Consulting



What is Public Health?

Public health is the science of protecting and improving the health of families and communities through promotion of healthy lifestyles, research for disease and injury prevention, and detection and control of infectious diseases.



VISION
Every South Dakotan
Healthy and Strong

MISSION
Working together to
promote, protect, and
improve health

Objectives



1. Review epidemiology
2. Review viral epidemiology
3. Review diagnostic considerations
4. Review treatment considerations with respect to microbiome protection for colonization resistance
5. Case Studies

Clinical Considerations in Respiratory Infections



Consulting Team



JAMES M. KEEGAN, MD



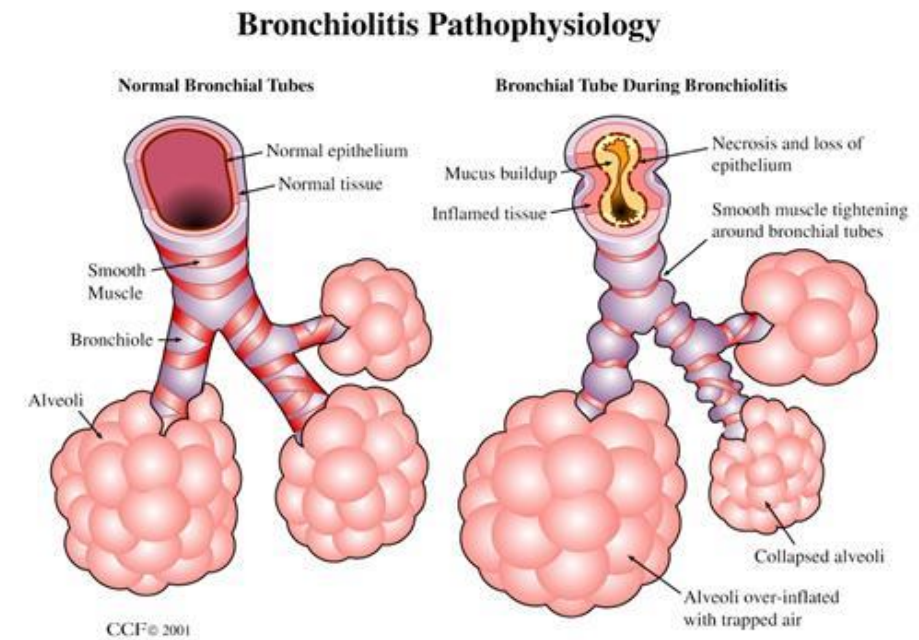
RANDEE MASON, RN, BSN, CPHQ

Bronchiolitis



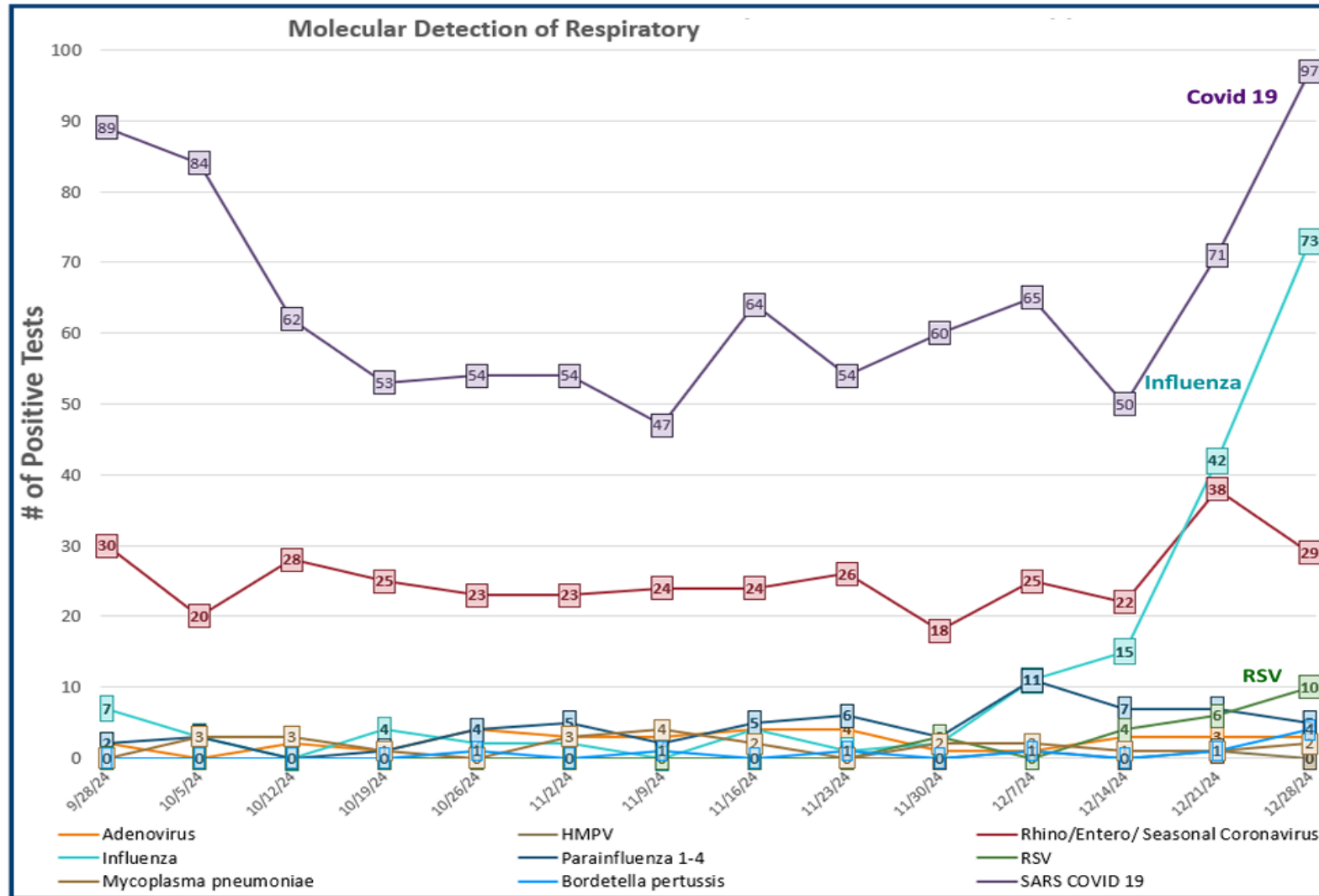
A virus causes a bronchiolitis infection. Viruses that can lead to bronchiolitis include:

- Respiratory Syncytial Virus (RSV).
- Influenza (flu) virus.
- Adenovirus
- Parainfluenza
- Metapneumovirus
- SARS-Cov-2 (COVID)



Source: Cleveland Clinic

Epidemiology

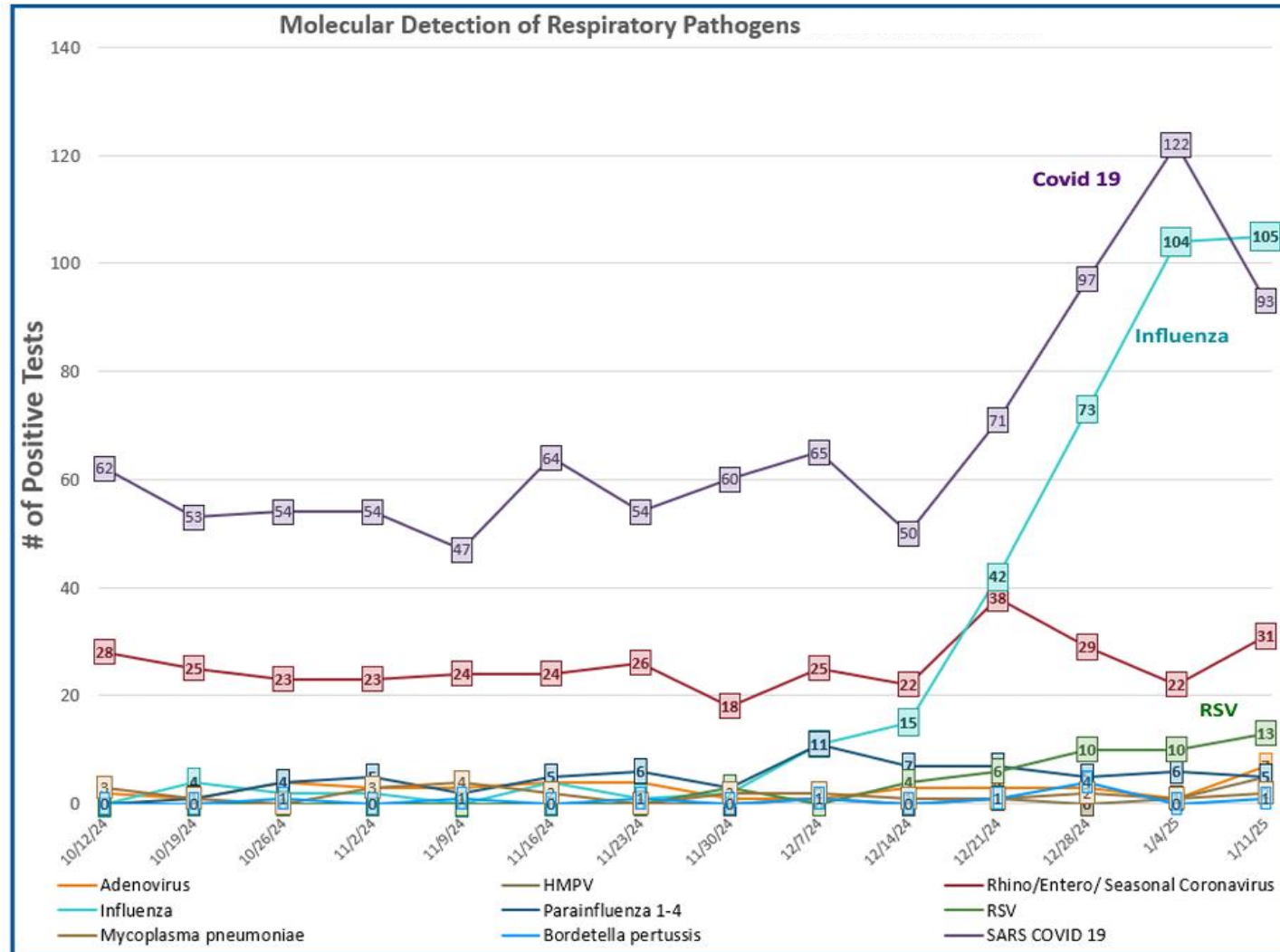


Viral Epidemiology



Molecular Detection Rates of Respiratory Pathogens					
*Detection Rate based on positive results from all PCR testing performed at laboratories					
High Activity (Detection >3%)		Moderate Activity (Detection 1-3%)		Low Activity (Detection <1%)	
SARS Covid 19	14.65%	RSV	2.24%	Influenza B	0.15%
Influenza A	11.09%	Bordetella pertussis	2.11%	Parainfluenza 3	0.53%
Rhino/Enterovirus	8.42%	Coronavirus OC43	2.11%		
Coronavirus NL63	4.74%	Adenovirus	1.58%		
		Parainfluenza 1	1.05%		
		Parainfluenza 4	1.05%		
		Mycoplasma pneumoniae	1.05%		

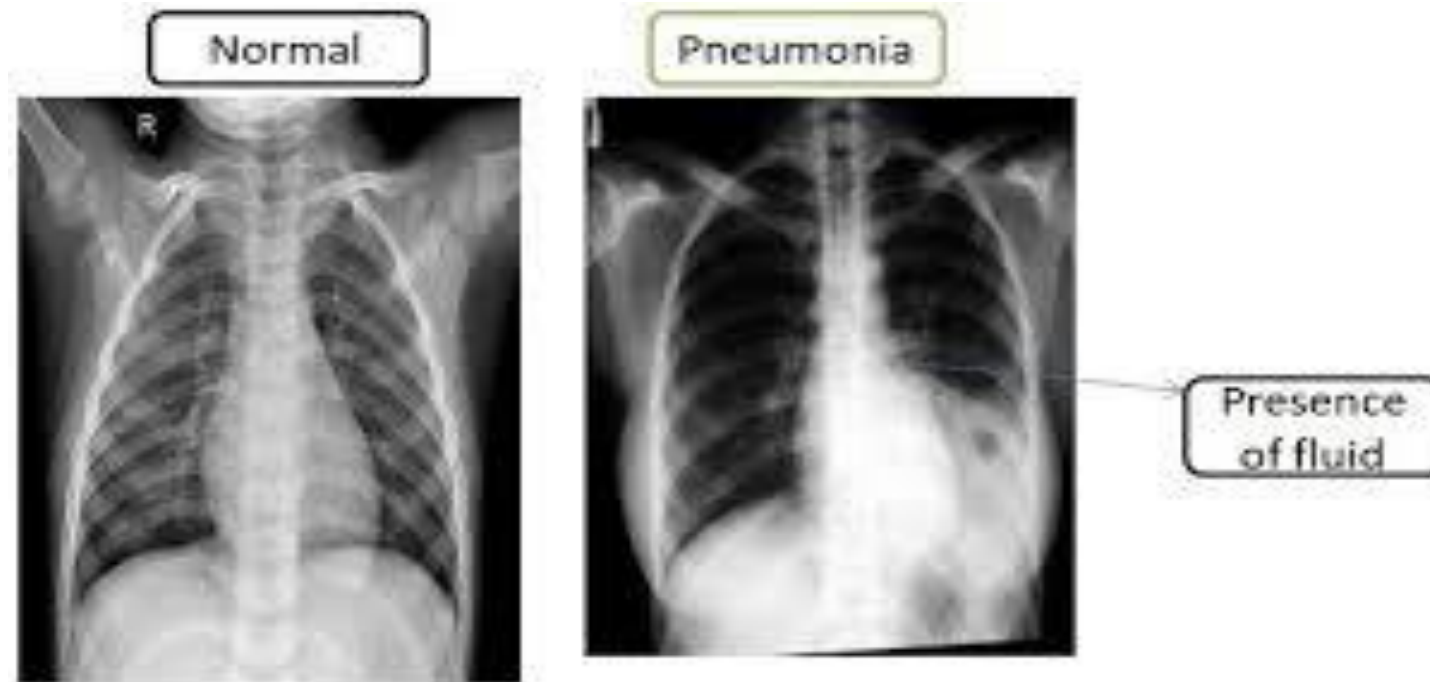
Viral Epidemiology



Diagnostic Consideration



“Aggressive Diagnostics, Conservative Therapeutics”



Therapeutic Considerations



- Microbiome protection for colonization resistance
 - Influenza
 - SARS COV2
 - RSV

Antibiotic Stewardship Aspects



- Infection occurs when a person is exposed and susceptible.
- Infection prevention decreases exposure.
- Antibiotic Stewardship and Vaccinations decrease susceptibility.

Prevention



- Masks
- Additional PPE
- Vaccinations
- Alcohol gel/Handwashing





- 51-year-old female on biologic immunosuppressants for psoriasis
- 74-year-old male presenting with skin lesion, cough, and fever
- 36-year-old male presenting with cough, fever, and shoulder pain

Conclusion



- Questions?
- Further Discussion

