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A 4-month-old infant is admitted to the pediatric

intensive care unit with a diagnosis of bronchiolitis.

The infant is tachypneic, with wheezing, nasal

aring, and retractions of the lower sternum and

intercostal spaces during inspiration.

A. What is the usual pathogen in bronchiolitis?

Would this infection be treated with an

antibiotic?

B. Explain the physiologic mechanism involved

in the retraction of the lower sternum and

intercostal spaces during inspiration.

C. What would be the signs of impending

respiratory failure in this infant?

A : The usual pathogen for bronchiolitis is a virus and viruses cannot be treated with an antibiotic

B : Intercostal retractions are due to reduced air pressure inside your chest. This can happen if the upper airway (trachea) or small airways of the lungs (bronchioles) become partially blocked. As a result, the intercostal muscles are sucked inward, between the ribs, when you breathe. This is a sign of a [blocked airway](https://medlineplus.gov/ency/article/003075.htm). Any health problem that causes a blockage in the airway will cause intercostal retractions, Sternal retraction is when the abdominal muscles significantly contracts and reveal the rib cage

C : Impending respiratory failure can present as dyspnea, mood changes, disorientation, pallor, or fatigue. With acute hypercapnia, flushing, agitation, restlessness, headache, and tachycardia can occur. Children with chronic respiratory failure often present with worsening hypercapnia and hypoxemia.