

# Bronchiolitis in infants and small children essay



**ASSIGN  
BUSTER**

Bronchiolitis in Infants and Small Children Interamerican University of Puerto Rico School of Nursing Bronchiolitis in Infants and Small Children Introduction

A common illness of the respiratory tract within infants and children under two is bronchiolitis. This illness causes inflammation in the bronchioles.

Hospitalization is often required because small children and infants have smaller airways that become easily blocked. Children who become affected develop cough, wheeze and shortness of breath. This illness reoccurs.

I have chosen this topic because my daughter had bronchiolitis for the first time when she was ten months old and she still gets it about every other month. Condition and Illness Bronchiolitis is usually caused by a viral infection, most commonly respiratory syncytial virus also known as RSV, more than half of all bronchiolitis cases are because of RSV. This infection is spread more during the season of winter and early in the spring. Rhinovirus, influenza, and human metapneumovirus are also associated with bronchiolitis.

This virus is usually caused because bronchiolar injury and inflammatory and mesenchymal cells leads to pathological and clinical syndromes. Some symptoms for this viral infection are: stuffiness, runny nose, fever, cough, rapid and shallow breathing, rapid heartbeat, retractions, flaring of the nostrils, irritability, trouble sleeping, poor appetite, vomiting, dehydration, fatigue and lethargy. Symptoms may worsen quickly, in occasions hospitalization is required. Pathophysiology

Infection of bronchiolar respiratory and ciliated epithelial cells causes more mucus secretion, cell death, and sloughing, followed by a peribronchiolar

lymphocytic infiltrate and sub mucosal edema. When debris and edema combine, it causes narrowing and obstruction of small airways. Lessened ventilation of parts of the lung causes ventilation mismatching, results in hypoxia. In the expiratory phase of respiration, further dynamic narrowing of the airways produces disproportionate airflow decrease and results in air trapping. Breathing is increased due to increased end-expiratory lung volume and decreased lung compliance.

The pulmonary epithelial cells recover in about three to four days however cilia, does not regenerate for about two weeks. Macrophages clear the debris. Statistics Infection is usually spread by direct contact with respiratory secretions. The clinical entity of bronchiolitis includes only infants and young children. In the United States, epidemics last two to four months beginning in November and peaking in January or February. While ninety three percent of cases occur between November and early April, cases may occur throughout the year.

Attack rates within families are as high as forty five percent and are higher in daycare centers. Rates of hospital-acquired infection range from twenty to forty seven percent. Previous infection with the common etiologic viruses does not confer immunity. Reinfection is common because there is no immunity against bronchiolitis. Seventy-five percent of cases of bronchiolitis occur in children younger than one year, and ninety five percent in children younger than two years. Ninety percent of the patients are aged between one and nine months old.

Bronchiolitis is the most common cause of hospitalization up to the first year of life. It is epidemic in winters. In the United States the annual incidence is eleven point four percent in children younger than one year and six percent in those aged one to two years. This illness accounts for ninety thousands of hospital admissions per year. Most deaths occur with infants under six months, the mortality rate is one to two percent of all hospitalized patients and three to four percent of patients with cardiac or pulmonary problems.

### Prescription and Treatment

Antibiotics do not work against viral infections, so they will not work with this illness. Drinking plenty of water, electrolyte drinks and fluids is recommended since dehydration is one of the symptoms. A humidifier is also recommended because the moist air helps loosen mucus. Getting plenty of rest is also important. No one should smoke or use cigarettes if they are going to be near the ill child. Some children need oxygen therapy and fluids thru IV. Albuterol, Proventil, Ventolin and Salbutamol are often prescribed; they cause bronchodilation and prevent airway obstructions. Prednisone and ethylprednisolone is used to block release of inflammatory mediators by inhibition of phospholipase, this is used more for patients with asthmatic qualities or asthma. Ribavirin is used for patients who have high risk or a severe RSV infection.

**Nursing Diagnosis, Intervention and Outcome**

The nursing diagnosis would be ineffective airway clearance related to excessive, thickened mucous secretions. The interventions would be to treat and maintain a patent airway and provide adequate respiration. This will include cool, oxygenated mist for very sick infants who require hospitalization and intravenous hydration.

Oral, nasal, and tracheal secretions should be clear as appropriate, smoking near the infant or child should be restricted, maintain airway patency, humidifier system can be used, administer supplemental oxygen as ordered, monitor the effectiveness of oxygen therapy, monitor pulmonary function, monitor temperature and fluid loss, check vital signs, monitor intake and output, administer medication to treat the cause of fever. Antiviral drugs are only used in the most severely ill infants. Prevention is very important during RSV season. Observation of the airway is a must.

Infants and children should have pillows to keep the head elevated to make breathing better; a 30 to 40 degree angle is recommended. Resting is necessary to the child should not be disturbed too often. Nursing outcomes and evaluation should be that the respiratory rate, respiratory rhythm, depth of inspiration auscultated breath sounds, vital capacity and pulmonary function is within normal range. Vital signs should be within normal range also. Conclusion Even though this illness does not have a high mortality rate it should be taken very seriously just like every disease or illness.

We have to consider that infants and small children are not capable of telling us their symptoms, so as nurses we have to trust our judgment and the parents or caregivers of those ill infants and children because no one knows them better. This research helped me to better understand this illness that as a mom and future nurse I have been treating at home for the past nine months. References Moorhead, S. , Johnson, M. , Maas, M. L. , & Swanson, E. (2008). Respiratory Status. Nursing outcomes classification (NOC) (4th ed. , p. 579). St. Louis, Missouri: Mosby/Elsevier.

Bulechek, G. M. , Butcher, H. K. , & Dochterman, J. M. (2008). Nursing Interventions Classification (NIC) (5th ed. ). St. Louis, Missouri: Mosby/Elsevier. Bronchiolitis: MedlinePlus Medical Encyclopedia. (2011, August 2). National Library of Medicine – National Institutes of Health. Retrieved October 10, 2011, from <http://www.nlm.nih.gov/medlineplus/ency/article/000975.htm>. Bronchiolitis . (n. d. ). KidsHealth – the Web’s most visited site about children’s health. Retrieved October 9, 2011, from <http://kidshealth.org/parent/infections/lung/bronchiolitis.html#>.