

# Medi Quest BRS Hospital

A monthly News letter from BRS Hospital

## Bronchiolitis

(Modified From Clinical Practice Guidelines  
Published By AMERICAN ACADEMY OF PEDIATRICS)

**Dr.S.Ramesh,MD,DCh**  
Pediatrician & Neonatologist  
Director - BRS Hospitals

Price Rs. 5/- Only

June - 2011

Medi - 16

Quest - 1

Yearly Subscription

Rs 50/- only

.....

Editors

**Dr.B.Madhusudhan,**  
MS.MCh.,DNB(Plastic)

**Dr.S.Ramesh,MD,DCh**

28,Cathedral garden Rd,  
Nungambakkam,  
Chennai - 600 034.

Phone:

044 - 30414250

044 - 30414230

Email:

brsmadhu@yahoo.co.in

Web:

www.brshospital.com

**Definition :** Disorder most commonly caused in infants from 6 months to 2 yrs .Most common lower Respiratory Tract infection caused by a virus

### **Pathology :**

Characterised by bronchospasm, inflammation, edema and necrosis of epithelial cell lining the small airways and increased mucous production

### **Causative organisms:**

Most common etiology RSV respiratory syncytial virus

### **Other viruses:**

Influenza

Para influenza

Adenovirus

Human Meta pneumovirus

Note : Infection with RSV does not confer permanent or lifelong immunity

### **Diagnosis of Bronchiolitis is CLINICAL**

### **Clinical features:**

Viral upper respiratory prodrome

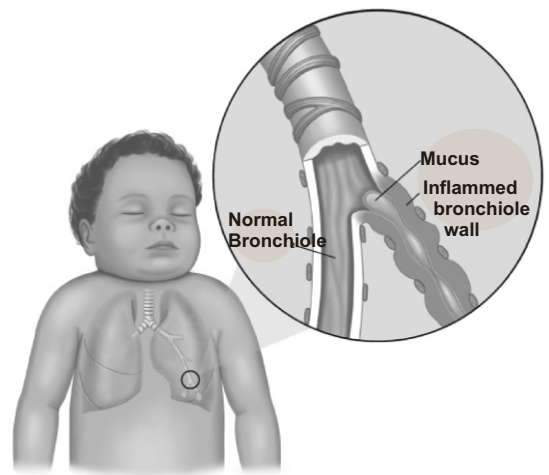
Rhinorrhoea

Cough

Wheezing-Absence of wheezing

must alert the clinician to other

cause of respiratory distress especially Bronchopneumonia  
Tachypnoea -> RR more than 70/min  
IC + SC recession + grunting



### **Note normal Respiratory Rate**

50 - New born

40 - 6months

30 - 1year

Tachypnea > 70

Count for 1minute

### **Risk factors for severe illness**

Age less than 12weeks

Prematurity

Underlying hemodynamically significant cardio vascular diseases

Immunodeficiencies

Congenital anomalies

## Pearls

Absence of tachypnoea is against severe Bronchiolitis and pneumonia. Wheeze is necessary to make the diagnosis.

When wheeze is not audible in the initial clinical encounter, assess repeatedly for rhonchi to make a definitive diagnosis. Wheeze and crackles can be present in Bronchiolitis. Crackles alone may be a pointer for bronchopneumonia.

**X-ray** : Routine X-ray not needed in Bronchiolitis . A difficult recommendation to follow

Presence of consolidation and atelectasis suggest serious illness

## Management

1. Mild cases can be treated as outpatient viz infants who are feeding well , tachypnoea with out work of breathing and saturating above 94% in room air .

2. For hospitalised infants, Oxygen and IV fluids form the mainstay of treatment. IV Fluids if the infant is unable to take fluid orally. When respiratory rate exceeds 60-70 / min, feeds may be compromised and the infant may be at increased risk for aspiration of food into the lungs. The possibilities of fluid retention related to **production of ADH has been reported in patients** with bronchiolitis, clinician should adjust fluids accordingly.

3. Supplemental O<sub>2</sub>  
Supplemental oxygen is indicated if oxygen saturation falls persistently below 90% in previously healthy infants. Oxygen may be discontinued if saturation > 90% the infant feeds well and has minimal respiratory distress. However many physicians are more comfortable with saturations at or above 94%

4. Use of corticosteroids, systemic and inhaled are not found to be of benefit in Bronchiolitis

5. Nebulisation has been tried with Salbutamol, 1: 1000 Adrenaline and 3% NaCl with varying results. Use of Salbutamol nebulisation . A carefully monitored trial with Salbutamol can be tried.Continue inhaled bronchodilators only if there is a benefit. Doses similar to those used in asthma.

Dosing recommended 0.15mg/kg

6. Adrenaline nebulisation :Dosing for adrenaline nebulisation are hazy. In one study 0.5mg or 0.5ml of 1:1000 Adrenaline has been used. In one centre 1.5mg of 1:1000 Adrenaline has been used three times a day. In one study 0.9mg/kg of Racemic Epinephrine was used and since ½ of Racemic epinephrine is L Epinephrine the active form and what is available to us, extrapolating this the dose works out to 0.4 mg/kg of 1:1000 Adrenaline which is the same dose used in Croup. In croup the maximum Adrenaline dose is 4ml or 4 mg The frequency of Adrenaline nebulisation is also not clear. Studies have shown adrenaline nebulisation may be the preferred bronchodilator No justification fo use in Ipratropium Cortical steroids (systemic or inhaled) should not be used in Bronchiolitis

7. 3% Hypertonic saline nebulisation. In several centres in our city this solution is used to nebulise infants with bronchiolitis. One study from Israel reports on the efficacy of hypertonic saline . However in this study 1.5mg of Adrenaline was added to 4ml of hypertonic saline as opposed to using 3% NaCl as the sole nebulising solution. Frequency was q8h

8. Antiviral Therapy  
The indications for specific antiviral therapy for bronchiolitis are controversial. Studies measuring the effect of Ribavirin in the acute phase of illness demonstrated some improvement in outcome attributed to Riba varin therapy. Ribavirin therapy may be considered for use in highly select situations involving documented RSV Bronchiolitis with severe disease (immune compromised and or hemodynamically significant cardio pulmonary disease)

9. Anti bacterial medication / Antibiotics and secondary Bacterial infection. Antibiotics should be used only in children with bronchiolitis who have specific indication of the coexistence of a bacterial infection. Children with bronchiolitis received antibiotics because of younger age, fever or concern over secondary bacterial infection. Several retro spective studies identified low rates of Secondary Bacterial infection in patients with bronchiolitis. When SBI was present it was more likely to be a UTI rather than bactremia or meningitis. Approximately 25% of hospitalised infants



## BRS Hospital Offers an Attractive Package of Master Health Check - up

With bronchiolitis will have radiographic evidence of atelectasis or infiltrates often misinterpreted as possible bacterial infection. Bacterial pneumonia in infants with bronchiolitis without consolidation is unusual.

10. Otitis media and Bronchiolitis Studies address the frequency of AOM in patients with bronchiolitis. In one study AOM was identified in 62% of 42 patients with bronchiolitis. Bacterial pathogens were isolated from 94% of middle ear aspirations, with streptococcus pneumoniae, H. Influenzae and Moraxella lateralis being the most frequent isolates. In an other study, 53% of infants developed AOM and in 50% of these infants middle ear aspirate identified pathogens.

11. Air way clearance and chest physiotherapy, No clinical benefit was found with chest physiotherapy. Suctioning of nares may produce temporary relief of nasal congestion

12. Hand decontamination with alcohol rubs before and after touching the patient and or touching the objects in the vicinity of patients is recommended to prevent noscomial spread of infection. Alcohol rubs are preferred. Second choice is hand decontamination with antimicrobial soap.

13. Breast feeding is to be recommended to prevent the risk of acquiring LRTI in infancy.

## For the Complete management of Diarrhoea start with Dynamic Duo



**Electrobion**

+



**BION**



## BRS Hospital Offers an Attractive Package of Well Women's Check - up

# BRS Hospital

### Department of plastic & Cosmetic Surgery

Cosmetic Surgical Procedures :

Liposuction

Abdominoplasty

Breast Augmentation

Breast Reduction

Gynaecomastia

Rhinoplasty

Hair Transplant

### MultiSpeciality Hospital

Intensive care unit (Pediatric & Adult)

Paediatrics & Neonatology

general surgery & key hole surgery

arthroscopic surgery - sports injuries

laparoscopic surgery

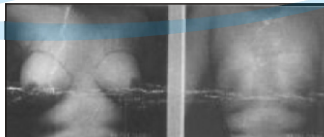
#### Liposuction



Pre OP

Post OP

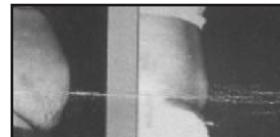
#### Male Breast Reduction Gynaecomastia



Pre OP

Post OP

#### Abdominoplasty



Pre OP

Post OP

28, Cathedral garden road Nungambakkam, Chennai - 600 034.

Ph: 044 30414250, 044 30414230 Email: brsmadhu@yahoo.co.in, Web: www.brshospital.com

Owned and Published by Dr. Madhusudhan 28, Cathedral Garden Road, Chennai - 34.  
Printed by Sl. Bakthaan at Dhevi Suganth Printers 52 Jani Batcha Lane, Royapettah Chennai - 14.

Postal Registration No. TN - CH© - 59-11-13

Registered News Paper Posted at Egmore R.M.S. Patirika Chennel.

RDISNo. 6342/98

Posted on 29.06.2011