RINSAD
Cuidando de la Salud Infantil

Bronchiolitis: What to do and what not to do?

Vol.2 xxxx ISSN-L: 2695-2785 DOI: -

Bronchiolitis: What to do and what not to do?

Marta Rodríguez. Nurse Specialist in Paediatric Nursing. Critical Care and Emergency Unit of the Maternal and Child Hospital of the Regional University Hospital of Malaga.

Ana Mª Leal Valle. Nurse of the Internal Medicine Unit of the Virgen de la Victoria University Hospital in Malaga.

Luis Francisco Torres Pérez, PhD in Health Sciences from the University of Malaga. President of the SAECC-ASADENCA. Nurse Block of Quality in Care of the Regional University Hospital of Malaga. Member of the research group.

Abstract: The management of bronchiolitis is well defined internationally. Guidelines recommend respiratory and hydration support, and discourage the use of chest radiography, salbutamol, glucocorticoids, antibiotics, and epinephrine. Despite evidence that these 5 therapies and management processes are ineffective and associated with harm, they continue to be widely used.

Key words: bronchiolitis, epinephrine, corticosteroids, salbutamol.

Bronquiolitis: ¿Qué hacer y qué no hacer?

Resumen: El manejo de la bronquiolitis está bien definido a nivel internacional. Las pautas recomiendan apoyo respiratorio y de hidratación, y desaconsejan el uso de radiografía de tórax, salbutamol, glucocorticoides, antibióticos y epinefrina. A pesar de la evidencia de que estas 5 terapias y procesos de manejo son ineficaces y están asociados con daños, continúan siendo ampliamente utilizados.

Palabras clave: bronquiolitis, epinefrina, corticoides, salbutamol.

Bronquiolite: O que fazer e o que não fazer?

Resumo: A gestão da bronquiolite é bem definida internacionalmente. As diretrizes recomendam suporte respiratório e de hidratação, e aconselham o uso de radiografia de tórax, salbutamol, glicocorticóides, antibióticos e epinefrina. Apesar da evidência de que estas terapias e processos de gestão são ineficazes e associados a danos, eles continuam a ser amplamente utilizados.

Palavras-chave: bronquiolite, epinefrina, corticosteroides, salbutamol.

Bronchiolitis: What to do and what not to do?

METHODOLOGY

Reference practice guidelines were reviewed, orienting the search for cynical practices that do not add value to health care.

IMPORTANCE OF THE ISSUE

In developed countries, bronchiolitis is the most common reason babies are admitted to hospital, and all international guidelines on bronchiolitis recommend supportive care and advise against measures that some authors have identified as relevant but which recent research has shown to be ineffective if not harmful. (Haskell et al., 2021) (Cai et al., 2020)

De-implantation strategies recommend maximum dissemination of recommendations, in all areas and all settings. A recent clinical trial has highlighted the prevalence of inadequate practices and the relevance of disseminating and reinforcing clinical evidence. (Haskell et al., 2021).

WHAT NOT TO DO

Despite recommendations to the contrary, there are many actions that persist among professionals, which are based on tradition and a defensive approach to care. (Haskell et al., 2021). The variability in practice is very wide, which makes correct indications alternate with debatable practices, here is a summary of the strongest evidence regarding these inadvisable interventions, focused on the administration of some treatments and the performance of diagnostic tests (chest X-ray: chest X-ray).

Table 1: The 5 interventions.

Intervention	APP Bronchiolitis Guide (USA) 2014		APP Bronchiolitis Guide (Australasia) 2016	
	Quality evidence	Recommendation	Quality evidence	Recommendation
Albuterol/ Salbutamol	Strong	Do not administer to target population: Infants and children.	Strong	Do not administer to target population
Antibiotics	Strong	Do not administer unless concomitant infections	Conditional	Do not administer to target population
Glucorticoids	Strong	Do not administer to target population: Infants	Strong	Do not administer to target population
Epinephrine	Strong	Do not administer to target population:	Strong	Do not administer to target population

Bronchiolitis: What to do and what not to do?

		Infants and children.		
Chest Rx	Moderate	It should not be a routine practice	Conditional	It should not be a routine practice

Shodelmaker A. et al. Evaluation of an educational outreach and audit and feedback program to reduce the continued use of pulse oximetry in hospitalized infants with stable bronchiolitis: a non-randomized clinical trial.

These are the most strongly discouraged actions, but not the only ones, in recent years it is also advocated to avoid continuous pulse oximetry, it is only applied in the initial assessment phase, especially when there is no indication of oxygen support.(Cheston & Vinci, 2020). And in the same sense, nebulizations with hypertonic solutions have not demonstrated their clinical validity.(Angoulvant et al., 2017).

SO... WHAT TO DO?

Undoubtedly the guideline *primun non nocere* should guide our work, not putting into practice interventions of dubious value or inadvisable. Above all, when the main forces of knowledge of the discipline so recommend it.

Perhaps the best recommendations focus on how to identify an unfavourable evolution that recommends transfer to a hospital and on initial management.(*06_bronquiolitis_aguda_viral_0.pdf*, s. f.).

With reference to the first one, the Spanish Society of Pediatric Pneumology points out some very useful clinical criteria, shown in Table 2.

Table 2. Criteria that make it advisable to refer the patient to a hospital centre.
Food refusal or digestive intolerance (intake < 50% of usual)
Dehydration
Lethargy
Apnea History
Tachypnea for your age
Moderate or severe shortness of breath (wheezing, nasal flaring, wheezing, or cyanosis)
Oxygen saturation < 92-94% breathing room air
Serious illness according to the scale used
Doubtful diagnosis.
Age < 2-3 months
Comorbidities
Onset of symptomatology < 72 h due to the risk of aggravation
Socio-economic situation of the environment, geographical factors and difficulty of transport.
Parent's or caregiver's ability to assess the seriousness of the child's condition

García García ML, Korta Murua J, Callejón Callejón A. Acute viral bronchiolitis. Protoc diagn ter pediatr. 2017; 1:85-102.

With regard to home monitoring measures, which are of enormous importance at the primary care level, the same society points out a series of interventions listed in Table 3.

TABLE 3. Control measures for bronchiolitis at home.

Bronchiolitis: What to do and what not to do?

1. Upper airway clearance with saline washings and suctioning, especially before feedings.
2. The infant's position in the crib should be in the supine position, with slight hyperextension of the head and an elevation of +30°.
3. Ambient temperature not exceeding 20 °C
4. Avoid environmental irritants such as tobacco smoke.
5. Ensure that he drinks fluids by mouth: if he does not tolerate them, offer small amounts frequently.
6. Monitor possible signs of worsening or alarm: difficulty breathing, increased respiratory rate, increased work of breathing, agitation, bad colour, apnoea pauses, refusal of food or vomiting. In these cases, go to the emergency room as soon as possible.
7. Check the temperature several times a day
8. Should not go to day care until symptoms have completely disappeared.
9. Provide a calm environment: do not disturb the infant with sudden manoeuvres, as far as possible, put comfortable and spacious clothing, avoiding excessive tucking in.
10. If the evolution is good, it is recommended systematic control by Paediatrics at 24 48 hours.

García García ML, Korta Murua J, Callejón Callejón A. Acute viral bronchiolitis. Protoc diagn ter pediatr. 2017; 1:85-102.

BIBLIOGRAPHIC REFERENCES

06_acute_bronchiolitis_viral_0.pdf. (n. d.). Retrieved December 6, 2021, from https://www.aeped.es/sites/default/files/documentos/06_bronquiolitis_aguda_viral_0.pdf.

Angoulvant, F., Bellêttre, X., Milcent, K., Teglas, J.-P., Claudet, I., Le Guen, C. G., de Pontual, L., Minodier, P., Dubos, F., Brouard, J., Soussan-Banini, V., Degas-Bussiere, V., , Gatin, A., Schweitzer, C., Epaud, R., Ryckewaert, A., Cros, P., Marot, Y., Flahaut, P., ... for the Efficacy of 3% Hypertonic Saline in Acute Viral Bronchiolitis (GUERANDE) Study Group. (2017). Effect of Nebulized Hypertonic Saline Treatment in Emergency Departments on the Hospitalization Rate for Acute Bronchiolitis: A Randomized Clinical Trial. *JAMA Pediatrics*, *171*(8), e171333. https://doi.org/10.1001/jamapediatrics.2017.1333. https://doi.org/10.1001/jamapediatrics.2017.1333

Bronchiolitis: What to do and what not to do?

Cai, Z., Lin, Y., & Liang, J. (2020). Efficacy of salbutamol in the treatment of infants with bronchiolitis: A meta-analysis of 13 studies. *Medicine*, *99*(4), e18657. https://doi.org/10.1097/MD.0000000000018657.

Cheston, C. C., & Vinci, R. J. (2020). Overuse of Continuous Pulse Oximetry for Bronchiolitis: The Need for Deimplementation Science. *JAMA*, *323*(15), 1449-1450. https://doi.org/10.1001/jama.2020.4359

Haskell, L., Tavender, E. J., Wilson, C. L., O'Brien, S., Babl, F. E., Borland, M. L., Cotterell, E., Schembri, R., Orsini, F., Sheridan, N., Johnson, D. W., Oakley, E., Dalziel, S. R., & PREDICT Network. (2021). Effectiveness of Targeted Interventions on Treatment of Infants With Bronchiolitis: A Randomized Clinical Trial. *JAMA Pediatrics*, *175*(8), 797-806. https://doi.org/10.1001/jamapediatrics.2021.0295. https://doi.org/10.1001/jamapediatrics.2021.0295