

## Is it urgent to update the Spanish clinical practice guidelines for acute bronchiolitis management?☆



### ¿Es urgente actualizar las guías de práctica clínica españolas para el tratamiento de la bronquiolitis aguda?

Dear Editor:

Two guidelines on the management of acute bronchiolitis (AB) are available in Spain, both published in 2010: the Clinical Practice Guideline by Simó Nebot et al.<sup>1</sup> and the Consensus Conference by González de Dios and Ochoa Sangrador.<sup>2</sup> In the time that has elapsed since, have there been any changes that are significant enough to require an urgent updating of Spanish guidelines and, consequently, of the clinical management of acute bronchiolitis? The aim of this study was to compare the Spanish guidelines with the latest international recommendations for the management of AB to determine whether there have been significant changes in the established practice guidelines.

We performed a literature review searching for the terms *acute bronchiolitis* and *clinical practice guideline* in the PubMed and Cochrane Library databases for the period ranging from 2010 to November of 2015. We selected the most recent hits: the guidelines of the American Academy of Pediatrics (AAP 2014)<sup>3</sup> and of the National Institute for Health and Care Excellence (NICE 2015).<sup>4</sup> We also did a search for any original articles published at later dates and obtained 102 references, of which we selected seven systematic reviews, five randomised controlled studies and one meta-analysis.

We present the main differences we found between the available guidelines in [Table 1](#). These differences consist on a further reduction of the treatment options recommended for the management of AB beyond supportive care. The management of AB continues to be founded on ensuring adequate hydration and oxygenation. When it came to oxygen therapy, we found disagreement as to when it should be initiated based on the patient's oxygen saturation on room air. The 2015 NICE guideline<sup>4</sup> sets the threshold at 92%, as do the Spanish guidelines,<sup>1-3</sup> while the 2014 AAP guideline<sup>3</sup> sets the threshold at 90%, since saturations greater than 89%

achieve adequate tissue oxygenation with a minimal risk of hypoxaemia.

As for  $\beta_2$ -agonists, salbutamol was a recommended treatment in the 2006 AAP guideline and in the Spanish guidelines.<sup>1,2</sup> However, both the 2014 AAP guideline<sup>3</sup> and the 2015 NICE guideline<sup>4</sup> have withdrawn this recommendation. Nebulised epinephrine is not recommended for routine treatment, but could be considered for rescue therapy in hospitalised patients.<sup>3</sup> Anticholinergic agents, which are already not recommended in the Spanish guidelines,<sup>1,2</sup> are not even mentioned in later guidelines.<sup>3,4</sup> This is similar to the pattern we observed for corticosteroids, which may even have deleterious effects.

Hypertonic saline, which is widely recommended in the Spanish guidelines,<sup>1,2</sup> is now restricted to inpatient treatment in the AAP guideline<sup>3</sup> and not recommended by the latest iteration of the NICE guideline.<sup>4</sup> In recent months, new articles have been published with completely contradictory results that do not warrant changes to the latest recommendations.<sup>5</sup>

Although heliox is not even mentioned in the American guideline,<sup>3</sup> it is recommended by the Spanish guidelines<sup>1,2</sup> and also the 2015 NICE guideline.<sup>4</sup> The latter states that while the current evidence is insufficient to support its recommendation, given the lack of serious side effects the use of heliox can be considered in hospitals where it is available. More recently, a Cochrane review on the use of heliox inhalation therapy<sup>6</sup> for AB concluded that the use of this gaseous mixture is associated with reduced clinical scores of respiratory distress when given in the first hours after the onset of symptoms, and that more studies are required to support recommending the routine use of heliox.

A bright future seems to be in the wings in the medium term for the management of AB, brought by new advances in the treatment and the prevention of infection by respiratory syncytial virus—the main causative agent of AB—with at least 11 antiviral candidates and 10 vaccine candidates currently in clinical trials.<sup>7</sup> In the meantime, there are very few treatment options for AB beyond supportive care. The main changes that should be introduced in the Spanish clinical practice guidelines would involve even greater restrictions in the use of bronchodilators and hypertonic saline. However, the most pressing need is for us to change our clinical practice and avoid overtreating patients with AB with therapies that offer limited (bronchodilators, hypertonic saline) or no clinical benefits (corticosteroids).

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**Table 1** Summary of the main differences between the Spanish guidelines on the management of acute bronchiolitis (2010) and the 2014 AAP and 2015 NICE guidelines.

	2010 consensus conference	2010 SNS clinical practice guideline	2014 AAP guideline	2015 NICE guideline
<i>Oxygen therapy</i>	Recommended for SatO <sub>2</sub> < 92%	Recommended for SatO <sub>2</sub> < 92%	Recommended for SatO <sub>2</sub> < 90%	Recommended for SatO <sub>2</sub> < 92%
<i>Hydration</i>	Recommended (oral, nasogastric tube or IV)	Recommended (oral, nasogastric tube or IV)	Recommended (oral, nasogastric tube or IV)	Recommended (oral, nasogastric tube or IV)
<i>Chest physiotherapy</i>	Not recommended	Not recommended	Not recommended	Not recommended save in the presence of comorbidities
<i>Aspiration of nasal secretions</i>	Recommended	Recommended	Recommended (not in excess)	Recommended if patient has difficulty eating or shows clinical deterioration
<i>Continuous pulse oximetry</i>	Not recommended	Not recommended	Not recommended	Considered, no recommendation <sup>a</sup>
<i>Heliox</i>	Recommended	Recommended	Not considered	Considered, no recommendation <sup>b</sup>
<i>Bronchodilators</i>				
β <sub>2</sub> agonists	Not recommended	Not recommended for routine care (therapeutic trial)	Not recommended	Not recommended
Adrenergic agents	Not recommended for routine care (therapeutic trial)	Not recommended for routine care (therapeutic trial)	Not recommended for routine care (therapeutic trial only in hospitalised patients)	Not recommended
Anticholinergic agents	Not recommended	Not recommended	Not recommended	Not recommended
<i>Hypertonic saline</i>	Recommended	Recommended	Recommended for lengths of stay >72 h	Not recommended
<i>Corticosteroids</i>				
Nebulised	Not recommended	Not recommended	Not recommended	Not recommended
Systemic	Not recommended	Not recommended	Not recommended	Not recommended
<i>Antibiotics</i>	For secondary infections	For secondary infections	For secondary infections	For secondary infections
<i>Ribavirin</i>	Not recommended	Not recommended	Not recommended	Not recommended

<sup>a</sup> NICE guideline<sup>5</sup>: considers the use of pulse oximetry to assess the state of the patient, but does not make a recommendation regarding continuous monitoring.

<sup>b</sup> NICE guideline<sup>5</sup>: there is some evidence suggesting that heliox therapy may reduce the need for CPAP in infants and children with severe bronchiolitis. However, the evidence is inconclusive, and therefore the guideline considers its use but does not make a specific recommendation.

## References

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