Outpatient management of patients with post-prematurity respiratory disease

December 21 2021

New American Thoracic Society Guideline on PPRD. Credit: ATS

New recommendations are available to help guide physicians who must determine when and how to treat infants, children and adolescents with post-prematurity respiratory disease (PPRD). The American Thoracic

Society has published an official clinical practice guideline in which a multidisciplinary panel of experts provide 13 conditional recommendations on the diagnostic testing and clinical management of these young people. The complete guideline detailing these recommendations was posted online ahead of print in the *American Journal of Respiratory and Critical Care Medicine*.

Worldwide, approximately 12 million infants—10 percent of live births—are born prematurely andare at risk for respiratory disease, the most common of which is bronchopulmonary dysplasia (BPD). However, all premature infants, even those who do not meet the criteria for having BPD, may develop poor respiratory health later in life with signs and symptoms including cough, recurrent wheezing, exercise intolerance, low blood oxygen (hypoxemia) and reduced pulmonary function. These individuals are classified as having PPRD.

In 2003, the ATS published the Statement on the Care of the Child with Chronic Lung Disease of Infancy (CLDI) and Childhood, which addressed the epidemiology, pathophysiology and treatment of CLDI in full-term and preterm infants. Therapeutic advances such as antenatal steroids, postnatal surfactant and protective ventilation strategies have led to significant increases in the survival of premature infants born much earlier in gestation. These increases in survival have led to an urgent need for physician guidance on the treatment of patients with lung disease associated with premature birth.

"There was a pressing need for updated guidance for clinicians who treat these patients," stated panel co-chairs A. Ioana Cristea, MD, MS and Christopher D. Baker, MD, pediatric pulmonologists from Riley Hospital for Children (Indianapolis, Indiana) and the University of Colorado School of Medicine (Denver, Colorado), respectively. "These recommendations are intended to aid clinicians in the outpatient management of patients with PPRD, regardless of the degree of

prematurity, the severity of disease or the age of the patient at the time of presentation."

The panel included 26 experts in pediatric pulmonology, neonatology, sleep medicine, radiology and nursing as well as parents of children with PPRD. They used the Grading of Recommendations, Assessment, Development, and Evaluation (GRADE) approach to formulate questions, identify and summarize relevant evidence, and develop recommendations for clinical practice. They identified seven questions on the management of PPRD. A number of the recommendations address multiple issues within each question posed; in these cases, recommendations are abbreviated and multiple recommendations for each question are combined for the sake of brevity of this news release. To read the complete recommendations, please go to the guideline, found here.

All recommendations are conditional and based on very low-certainty evidence.

Recommendations:

1. **(a)** For infants, children, and adolescents with PPRD who do not have recurrent respiratory symptoms, we suggest that short-acting inhaled bronchodilator therapy not be routinely prescribed; **(b)** For those with PPRD who have recurrent respiratory symptoms (such as cough or wheeze), we suggest a trial of short-acting bronchodilator with monitoring to assess for clinical improvement in symptoms.
2. **(a)** For infants, children, and adolescents with PPRD who do not have chronic cough and recurrent wheezing, we suggest that inhaled corticosteroids not be routinely prescribed; **(b)** For those with chronic cough or recurrent wheezing, we suggest a trial of inhaled corticosteroids with monitoring to assess for clinical

improvement in symptoms.

3. **(a)** For infants, children, and adolescents with PPRD, we suggest against the routine use of diuretics; **(b)** For infants with PPRD who are discharged from the NICU on chronic diuretic therapy, we suggest discontinuation in a judicious manner.
4. **(a)** For infants with PPRD who are otherwise ready to be discharged from the NICU, we suggest the use of PSG for patients with persistent apnea, intermittent desaturation, or bradycardia at greater than 40 weeks PMA; **(b)** For infants, children, and adolescents with PPRD, we suggest the use of PSG and/or sleep medicine referral for those with symptoms of sleep disordered breathing including persistent snoring, failure to thrive, or persistent need for supplemental oxygen at two years of age**; (c)** When a PSG is indicated but not available, we recommend that an overnight or 24-hour oximetry be obtained to screen for SDB followed by a PSG and/or sleep medicine referral if needed.
5. For infants, children and adolescents with PPRD, we suggest a swallow evaluation (videofluoroscopic swallow study) for those who are eating by mouth and have cough or persistent oxygen desaturation during feeding, suspected or confirmed vocal cord paralysis or other airway anomalies, failure to wean from oxygen therapy or ventilatory support as expected, persistent or worsening pulmonary hypertension, failure to thrive, or chronic pulmonary symptoms out of proportion to viral respiratory infections.
6. For infants, children and adolescents with PPRD, we suggest airway endoscopy for those with unexplained symptoms such as chronic cough, wheezing, ventilator dependence, persistent hypoxemia, or a history of PDA ligation with stridor and weak cry.
7. **(a)** For infants, children and adolescents with PPRD who do not have symptoms suggestive of airway malacia, we suggest that

dynamic airway imaging (CT or MRI) not be used as a screening test for the routine diagnosis of TBM; **(b)** We suggest that unsedated, dynamic airway imaging (CT or MRI) be used for the diagnosis or re-evaluation of TBM in patients with PPRD who have recurrent symptoms suggestive of airway malacia as an alternative to bronchoscopy when the risk of anesthesia for bronchoscopy is judged to be more than risks from radiation or if bronchoscopy is not feasible or available.

Provided by American Thoracic Society