EXCELLENCE IN EMERGENCY MEDICINE

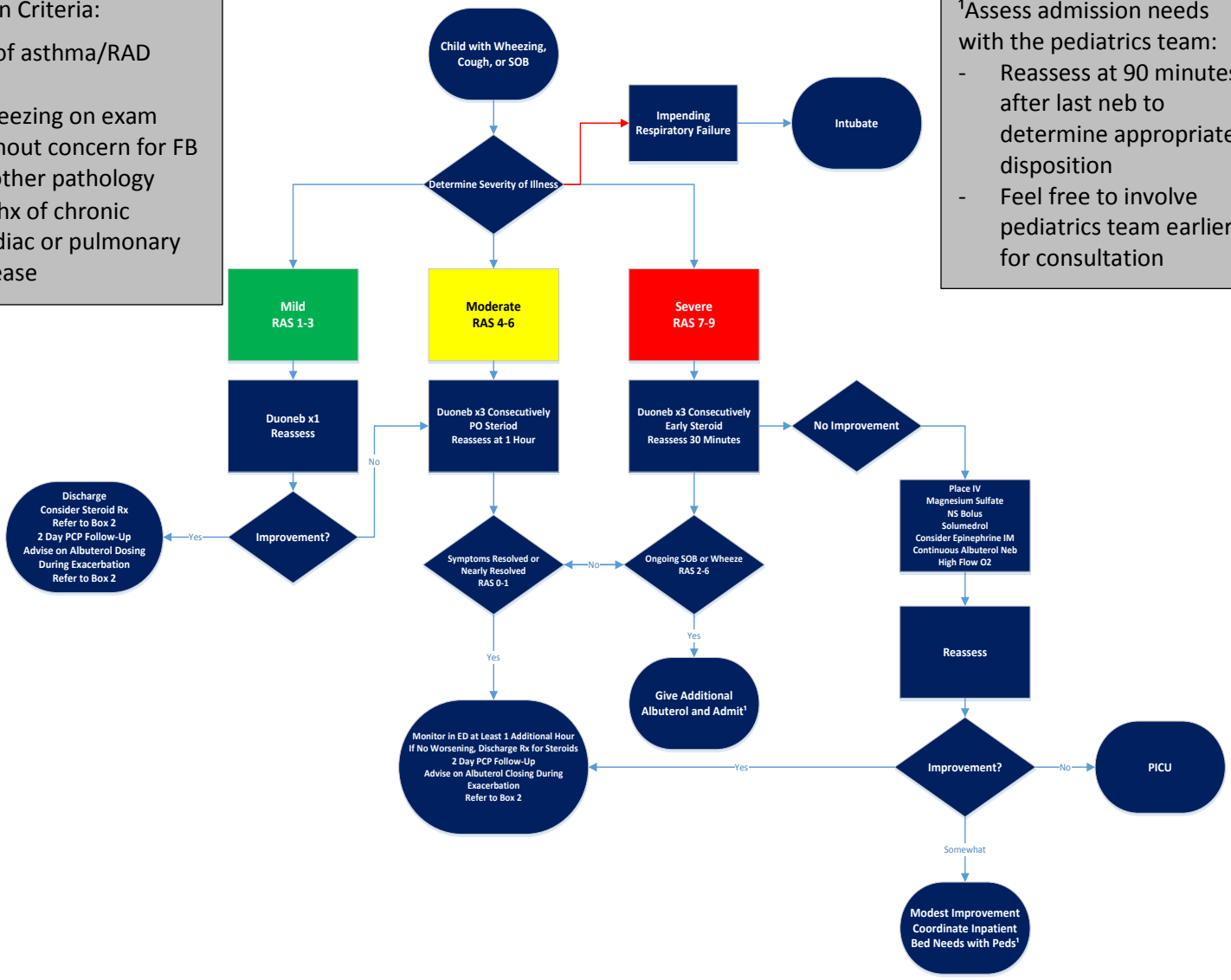
EPPA Clinical Guidelines ISSUED: NOVEMBER 2016 ~ REVISED 2016

MANAGEMENT OF
Pediatric (≥ 2y)
Reactive Airway Disease/Asthma

This EPPA Clinical Guideline is intended to guide most, but not all, encounters involving pediatric asthma and should not replace clinical judgment; deviate from or adapt this guideline to meet the individual patient's needs.

Inclusion Criteria:

- Hx of asthma/RAD OR
- Wheezing on exam without concern for FB or other pathology
- No hx of chronic cardiac or pulmonary disease



[1]Assess admission needs with the pediatrics team:

- Reassess at 90 minutes after last neb to determine appropriate disposition
- Feel free to involve pediatrics team earlier for consultation

MANAGEMENT OF **Pediatric Asthma**

Key Points:

RAS Score

To calculate RAS score, determine a point total for each row (max 3 points) and add the score for each row to determine a total (max 9 points).

	0 Points	1 Point	2 Points	3 Points
Respiratory Rate				
0-1 yrs of age 2-3 yrs of age 3-6 yrs of age 7+ yrs of age	≤45 ≤40 ≤30 ≤20	46-55 41-45 31-45 21-35	56-60 46-60 46-60 36-50	≥60 ≥60 ≥60 ≥50
Retractions	None	ONE of the following: Subcostal Intercostal	TWO of the following: Subcostal Intercostal Substernal	THREE of the following: Subcostal Intercostal Substernal Suprasternal Supraclavicular
Auscultation (as it relates to wheezing)	Normal breathing, no wheezing	End-expiratory wheeze only	Expiratory wheeze only (greater than end-expiratory wheeze)	Inspiratory and expiratory wheeze or diminished breath sounds

Steroids (2)

Steroid Prescribing:

- Steroids given within 1 hour of ED arrival decreases the need for admission
- Steroids indicated for all patients receiving ≥2 nebs (including nebs given at home prior to arrival), or if history of asthma exacerbation requiring steroids within 2 months or history of severe exacerbations

Dosing:

- Dexamethasone 0.6mg/kg PO/IV/IM, max single dose 16 mg. Give one dose in the ED and one dose at home in 24 hours. Caution that liquid dexamethasone may be difficult to obtain from outpatient pharmacies.
- Prednisolone: 2mg/kg PO in ED then 1-2mg/kg/day in single daily dose or divided q12hr for 3-5 days, max dose 60mg/day

Other Medications

- Continuous albuterol 0.5mg/kg/hr, max 15mg/hr
- Albuterol dosing for discharge 2.5mg or 2-4 puffs MDI q4 hour while awake for 2-3 days and every 4 hours as needed during sleep. Then, wean as tolerated.
- DuoNeb 1 dose = 3mL (2.5mg albuterol and 0.5mg of ipratropium bromide)
- Magnesium Sulfate IV 25-75mg/kg, max 2g
- Epinephrine: weight <30kg 0.15mg IM, weight ≥30kg = 0.3mg IM
- Methylprednisolone (Solumedrol) 2mg/kg IV, max 125mg
- Ketamine 1.5mg/kg IV – Preferred agent for intubation, give as slow IV push to decrease apnea

CXR Indications

Routine CXR is not indicated for uncomplicated asthma exacerbation. CXR is only indicated if history or exam is suggestive of additional complication. Provider may elect to forgo CXR if clinical diagnosis of pneumonia

Consider CXR if:

- First time wheezing (not needed unless clinical concern for FB or another criteria listed below)
- Focal exam findings: Significant crackles or asymmetry persistent after therapy
- Fever ≥ 102 F (39 C) without rhinorrhea or other viral symptoms
- Patient has severe presentation
- Chest pain raising concern for pneumothorax or pneumomediastinum
- Patient has severe presentation or persistent hypoxia after treatment

Albuterol Inhaler and Spacer

- MDI is noninferior to neb treatments when delivered correctly
- Spacer for age > 6 years
- Inline chamber with mask for age < 6 years

References:

- National Asthma Education Prevention Program. Expert panel reports 3 (EPR-3): guidelines for the diagnosis and management of asthma – summary report 2007. *J Allergy Clin Immunol.* 2007; 120: S94-S138.
- Gershal JC, et al. The Usefulness of Chest Radiographs in First Asthma Attacks. *N Engl J Med* 1983; 309: 336-339 August 11, 1983.
- Ruscone, F, et al. *Pediatrics* 1994.
- Smith, SR, et al. Academic *Emergency Medicine* 2002; 9: 99-104.
- Scarfone, R. Acute asthma exacerbations in children: Emergency department management. UpToDate, TePas, E. (Ed), UpToDate, Waltham, MA. (Accessed on August 25, 2016.)

Discharge Criteria

- Clinical improvement in symptoms. RAS 0-1
- O2 Saturation ≥93% on RA
- Adequate PO intake
- No social barriers to d/c