PEDIATRIC EMERGENCY MEDICINE EVIDENCE-BASED PATHWAY

MANAGEMENT OF ACUTE ASTHMA **EXACERBATIONS**

© BCH Emergency Department

Inclusion Criteria

Age: \geq 24 months of age

H/o asthma, reactive airway disease or wheezing +/- family history of asthma

Exclusion Criteria

Contraindication/allergy to medications used within guideline.

Disease of other origin: pneumonia, bronchiolitis, croup

Complicated medical history including congenital/acquired heart disease, other chronic lung disease, bronchopulmonary dysplasia/cystic fibrosis, immune-mediated disorders, tracheostomy

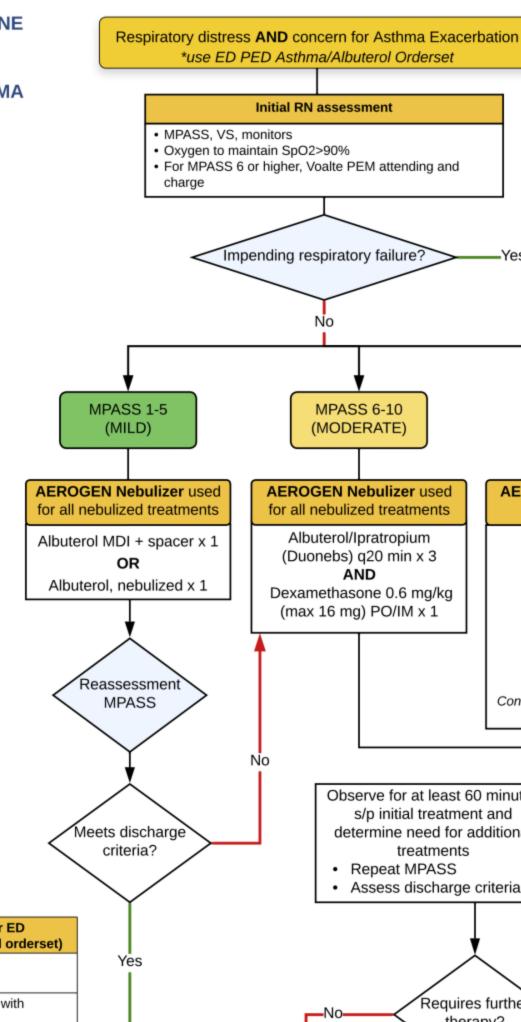
Criteria for radiographic imaging or labs:

No absolute indication.

Consider radiographic imaging in children with:

- Fever ≥ 39°C, hypoxia, focal abnormality on pulmonary examination,
- Absence of family history of asthma, or those who respond less favorably than expected to bronchodilator therapy.
- May also consider in patients with concern for presence of foreign body, pneumomediastinum or pneumothorax.

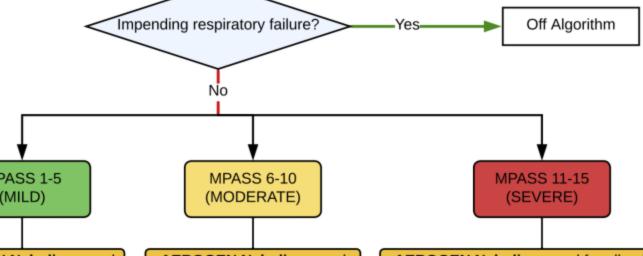
Consider blood gas testing if there is a clinical worsening of mental status, neurologic and/or respiratory exam.



Initial RN assessment

*use ED PED Asthma/Albuterol Orderset

 Oxygen to maintain SpO2>90% · For MPASS 6 or higher, Voalte PEM attending and



AEROGEN Nebulizer used for all nebulized treatments

Albuterol/Ipratropium (Duonebs) q20 min x 3 AND

Dexamethasone 0.6 mg/kg (max 16 mg) PO/IM x 1

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Benioff Children's Hospital

San Francisco

Albuterol/Ipratropium (Duonebs) q20 min x 3

AND

Dexamethasone 0.6 mg/kg (max 16 mg) PO/IM/IV x 1

Methylprednisolone/prednisone 2 mg/kg (max 60 mg) IV/PO x 1

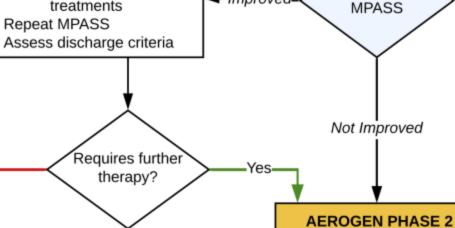
Consider IV access, adjunctive medications and RT consultation as indicated

Observe for at least 60 minutes s/p initial treatment and Meets discharge determine need for additional treatments

No

Repeat MPASS

←Yes



→ Improved-

Dosing (per ED Medication Asthma/Albuterol orderset) <20 kg: 2.5 mg Albuterol (nebulized) ≥20 kg: 5 mg <20 kg: 4 puffs with Albuterol (metered-dose aerochamber

- inhaler) ≥20 kg: 8 puffs with aerochamber Note: During first hour of therapy, all ipratropium is **Ipratropium** given as a Duonebs. Dosing for both weights is 500mcg
 - per treatment · Infrequently utilized. If indicated, 20mg/hr Continuous albuterol regardless of weight
 - 50 mg/kg IV x 1 (max 2g). Administer with 20ml/kg normal Magnesium Sulfate saline bolus unless contraindicated
 - Epinephrine 1:1000 (1 mg/mL): Epinephrine (IM) 0.01 mg/kg IM (max 0.3-0.5 mg)
 - Loading dose: 10 mcg/kg IV/IM Terbutaline x 1, then infusion of 0.08 mcg/kg/min IV; titrate to effect

DISCHARGE

Albuterol +/- aerochamber Rx: 4-8 puffs Q4H x 48h as per attending decision

Consider repeat dose of Dexamethasone in 24 hours if given initially

Follow-up in 2 days with PCP if desired

Discharge criteria:

- MPASS < 7
- Able to obtain/tolerate medicine and manage outpatient

ADMIT

Improved?

No

- · Consider floor, TCU or PICU depending on clinical status
- Ongoing therapy can be intermittent Aerogen nebulizers q1-4H or continuous albuterol as indicated, depending on desired admitting location or RT preference

 Deliver intermittent albuterol nebulizers (using Aerogen) q30-60 minutes PRN up to THREE times, spacing as tolerated

Reassessment

- Consider if not performed
 - IV access
 - · Adjunctive therapy
 - RT consultation
- While admission can be considered at any time, strongly consider after the three Aerogen nebulizers given during Phase 2

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BCH Medication Committee 09/2017; UCSF P&T Committee 10/2017

Disclaimer: This algorithm functions as a guideline for clinical care under the direction of attending physicians.