

ED Phase 1a: Initial Assessment | 1st Hour

RS 1:
Discharge with albuterol

RS 2-5:
Albuterol x1
Reassess in 20-60 min
(max 3 doses)
*Consider steroids based on historical/clinical information
*Consider ipratropium if more than one dose of Albuterol is needed.

RS 6-12:
**Albuterol+ ipratropium
(max 3 doses); + prednisone, dexamethasone or methylprednisolone
Consider [adjunct therapies](#)

ED Phase 1b: Reassessment | 2nd Hour

RS 1-4:
Discharge with albuterol + steroid (if started in the ED)

O2 sat >92% on 2LNC or 40%FM:
Begin Phase 2 management

O2 sat <92% on 2LNC or 40%FM:
Consider BiPAP, magnesium sulfate, chest X-ray, continuous albuterol, PICU consult

RS 9-12:
Continuous albuterol and Magnesium Sulfate. Consider SQ/IM Terbutaline or Epinephrine, BiPAP, chest X-ray, PICU consult.

Inpatient: Phase 2

Albuterol q2hrs; Respiratory score q2hrs; Initiate Discharge Plan (part of the asthma order set)

RS 1-4:
Advance after one treatment in this phase

RS 5-8:
Continue therapy in this phase

RS 9-12:
Step back to previous phase or escalate care ([see escalation box](#))

Inpatient: Phase 3

Albuterol q3hrs; Respiratory score q3hrs

RS 1-4:
Advance after one treatment in this phase

RS 5-8:
Continue therapy in this phase

RS 9-12:
Step back to previous phase or escalate care ([see escalation box](#))

Consider alternate causes of hypoxia if oxygen saturation <94% when awake and <92% asleep (on room air)

Inpatient: Phase 4

Albuterol q4hrs; Respiratory score q4hrs

RS 1-4:
Discharge after one treatment in this phase

RS 5-8:
Continue therapy in this phase

RS 9-12:
Step back to previous phase or escalate care ([see escalation box](#))

Discharge Plan

1. Completion of online education
2. Pharmacy education on use of spacer
3. Modification of home medications (if indicated)
4. Asthma Action Plan
5. Appointment with PMD
6. Appointment with subspecialty (if indicated)

Medication Dosing

ALL MEDICATIONS REQUIRE AN MD ORDER

**ED & Inpatient

Albuterol dosing:

<20 kg: 4 puff MDI or 2.5 mg nebulized
≥20 kg: 8 puff MDI or 5 mg nebulized

Continuous albuterol via nebulizer:

<20 kg: 10 mg/hr | ≥20 kg: 15 mg/hr

Ipratropium bromide: 500 mcg nebulized

Prednisone or Prednisolone (oral):

1st dose: 2 mg/kg/day (max dose 60 mg/day)

Subsequently: 1-2 mg/kg/day

Dexamethasone: 0.3 mg/kg (max 10 mg)

Methylprednisolone:

First dose: 2 mg/kg (max- 60mg)

Then: 1 mg/kg IV Q6h (max 125 mg/day)

Indications for IV/IM steroids: Inability to tolerate PO or concern for inadequate (not adequate) GI absorption.

*Consider steroids if using albuterol q4 hours at home without clinical improvement or cough > 1 week

Discharge/Home

Albuterol dosing:

<20 kg: 2 puff MDI or 2.5 mg nebulized

≥20 kg: 4 puff MDI or 2.5 mg nebulized

Adjunct Therapies

Magnesium sulfate IV: 50-75 mg/kg (max 2 gms) over 20 minutes
(Consider administration of Normal Saline bolus)

Epinephrine (1:1000 = 1 mg/ml) or terbutaline (1 mg/ml):

0.01 ml/kg (max 0.4 ml) given SQ or IM q10-20min

*Exclusion

- Chronic lung disease (e.g. cystic fibrosis, restrictive lung disease, bronchopulmonary dysplasia)
- Congenital and acquired heart disease
- Airway Issues (e.g. vocal cord paralysis, tracheomalacia, tracheostomy dependent)
- Medically complex children
- Immune disorders
- Sickle cell anemia

RN/RT to Notify MD

- For all phase transitions
- Failure to advance on pathway after 12 hours in all inpatient phases
- Persistent O2 requirement in Phase IV
- An increase in respiratory score

Signs of Clinical Decline

- Drowsiness
- Agitation
- Confusion
- Silent chest exam

Notify MD and consider PMET activation

Escalation—Notify MD

- Albuterol+Ipratropium bromide: 3 treatments q20mins over 1 hour
- Magnesium sulfate
- Reassess after interventions

Consider PMET activation

Respiratory Scoring Tool

Variable	0 Points	1 Point	2 Points	3 Points
RR				
<2 months		≤60	61-69	≥70
2-12 months		≤50	51-59	≥60
13-23 months		≤40	41-44	≥45
2-3 year		≤34	35-39	≥40
4-5 year		≤30	31-35	≥36
6-12 year		≤26	27-30	≥31
>12 year		≤23	24-27	≥28
Retractions	None	Subcostal or intercostal	2 of the following: subcostal, intercostal, substernal OR nasal flaring (infant)	3 of the following: subcostal, intercostal, substernal, suprasternal, supraclavicular OR nasal flaring/head bobbing (infant)
Dyspnea				
0-23 months	Normal feeding, vocalizations and activity	1 of the following: difficulty feeding, decreased vocalization or agitated	2 of the following: difficulty feeding, decreased vocalization or agitated	Stops feeding, no vocalization, drowsy or confused
2-4 years	Normal feeding, vocalizations and play	1 of the following: decreased appetite, increased coughing after play, hyperactivity	2 of the following: decreased appetite, increased coughing after play, hyperactivity	Stops eating or drinking, stops playing, OR drowsy and confused
>4 years	Counts to ≥10 in one breath	Counts to 7-9 in one breath	Counts to 4-6 in one breath	Counts to ≤3 in one breath
Auscultation	Normal breathing, no wheezing present	End-expiratory wheeze only	Expiratory wheeze only (greater than end-expiratory wheeze)	Inspiratory and expiratory wheeze OR diminished breath sounds OR both