

**PHYSICIAN ORDERS
FOR
SEVERE ASTHMA in the
EMERGENCY DEPARTMENT**

Page 1 of 3

Patient Identification

Weight: _____ kg Height: _____ cm Allergies: _____

This order set is to be used for patients with SEVERE ASTHMA (PRAM Score of 8 – 12)

Refer to [TREKK's Severe Asthma Exacerbation Algorithm](#)

To activate an order, initial on blank line preceding order

INITIAL MANAGEMENT:

- Continuous cardiorespiratory monitoring
- Administer O₂ to maintain SpO₂ greater than 92% (90% at higher altitude)

MEDICATIONS:

| Salbutamol Dose Guidelines | Less than 20 kg | 20 kg or greater |
|---|------------------------|-------------------------|
| Metered Dose Inhaler (MDI) 100 mcg/puff with spacer | 5 puffs/dose | 10 puffs/dose |
| Continuous nebulization via large volume nebulizer* | 7.5 mg/hr | 15 mg/hr |
| Intermittent nebulization* | 2.5 mg/dose | 5 mg/dose |

*add NS to make up to required volume per nebulizer used; often 20 mL for large volume and 3-4 mL for small volume/intermittent doses

FIRST HOUR OF TREATMENT

_____ **salbutamol MDI/spacer:** _____ puffs inhaled q20min x 3 consecutive doses
alternating WITH

ipratropium MDI/spacer (20 mcg/puff): 4 puffs inhaled q20min x 3 consecutive doses
OR

_____ **salbutamol nebule:** _____ mg continuous inhalation over 1 hour
mixed in large volume nebulization chamber WITH

ipratropium nebule: 750 mcg continuous inhalation over 1 hour
OR

_____ **salbutamol nebule:** _____ mg q20min inhalation x 3 consecutive doses
each dose mixed in small volume nebulization chamber WITH

ipratropium nebule: 250 mcg q20min inhalation x 3 consecutive doses

AND

Administer steroid with 1st dose of bronchodilators. Oral steroid preferred. IV route if impending respiratory failure.

_____ **dexAMETHasone** _____ mg (0.6 mg/kg/dose, MAX 12 mg) PO x 1 dose (preferred oral steroid)
OR

_____ **predniSONE/prednisoLONE** _____ mg (2 mg/kg/dose, MAX 60 mg) PO x 1 dose
OR

***** Continued on Page 2. Ensure nurse is aware of Page 2 at the time of completion. *****

| | | |
|------------------------------|----------------------------------|----------------------|
| _____ PHYSICIAN SIGNATURE | _____ PRINT NAME OF PHYSICIAN | _____ DATE & TIME |
| _____ NURSE SIGNATURE | _____ PRINT NAME OF NURSE | _____ DATE & TIME |

Original Copy – Chart Copy to Pharmacy

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Patient Identification

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***Continued from Page 1.

FIRST HOUR OF TREATMENT (continued from Page 1)

_____ **hydrocortisone** _____ mg (8 mg/kg/dose, MAX 400 mg) IV x 1 dose

OR

_____ **methyIPREDNISolone** _____ mg (2 mg/kg/dose, MAX 80 mg) IV x 1 dose

If hypoperfused, initiate IV:

_____ NS or RL (circle one) bolus _____ mL (20 mL/kg, MAX 1000 mL) IV over _____ minutes

_____ D5NS at _____ mL/hr IV

If impending respiratory failure:

_____ **magnesium sulfate** _____ mg (50 mg/kg/dose, MAX 2000 mg) IV x 1 dose over at least 20 minutes.

Monitor BP q5min during magnesium infusion then q30min x 2.

If concern for anaphylaxis:

_____ **EPINEPHrine** (1 mg/mL) _____ mg (0.01 mg/kg/dose, MIN 0.1 mg, MAX 0.5 mg) **INTRAMUSCULAR** in anterolateral thigh muscle x 1 dose, may REPEAT q5min PRN.

Refer to [TREKK's Anaphylaxis Resources](#) for comprehensive management.

SECOND HOUR OF TREATMENT

After first hour of treatment AND if clinically improved (PRAM < 8, SpO₂ greater than 92% in room air (90% at higher altitude), administer:

_____ **salbutamol MDI/spacer** _____ puffs q _____ minutes/hours (circle one)

For severe respiratory distress/signs of respiratory failure (PRAM ≥8) OR failure to improve after 1 hour of treatment:

_____ **salbutamol nebule:** _____ mg/hr continuous inhalation via large volume nebulizer

OR

_____ **salbutamol nebule:** _____ mg q20min inhalation via small volume nebulizer

FLUIDS/OTHER MEDICATIONS:

If hypoperfused, initiate IV:

_____ NS or RL (circle one) bolus _____ mL (20 mL/kg, MAX 1000 mL) IV over _____ minutes

_____ D5NS at _____ mL/hr IV

*** Continued on Page 3. Ensure nurse is aware of Page 3 at the time of completion. ***

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PRINT NAME OF PHYSICIAN

DATE & TIME

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***Continued from Page 2.

SECOND HOUR OF TREATMENT (continued from Page 2)

If impending respiratory failure and not given as part of initial management OR for those who remain in moderate to severe respiratory distress after 1 hour of treatment:

_____ **magnesium sulfate** _____ mg (50 mg/kg/dose, MAX 2000 mg) IV x 1 dose over at least 20 minutes.
Monitor BP q5min during magnesium infusion then q30min x 2.

If concern for anaphylaxis:

_____ **EPINEPHrine** (1 mg/mL) _____ mg (0.01 mg/kg/dose, MIN 0.1 mg, MAX 0.5 mg) **INTRAMUSCULAR** in anterolateral thigh muscle x 1 dose, may REPEAT q5min PRN.
Refer to [TREKK's Anaphylaxis Resources](#) for comprehensive management.

_____ Other: _____

INVESTIGATIONS/MONITORING:

- Na, K, Cl, blood gas (capillary, arterial or venous depending on availability)
- CBC & Diff
- Other: _____

CONTACT PEDIATRIC REFERRAL CENTRE OR CONSIDER TRANSFER FOR:

- PRAM greater to or equal to 8 with no improvement after first hour of treatment with bronchodilators and steroid
OR
- Concern for impending respiratory failure (i.e., decreasing level of consciousness, lethargy, cyanosis, decreasing respiratory effort, and/or rising PCO₂) at ANY time
OR
- PRAM 4-7 and not improving after 4 or more hours post steroid treatment

Consider discharge home if:

- PRAM 0-3 and SpO₂ ≥92% in room air (>90% at higher altitude) at least 1-2 hours after last salbutamol treatment

Refer to [TREKK's Asthma Bottom Line Recommendations](#) for discharge instructions/medications.

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