1. **Name of the Medical Directive:** Initial oral steroid for known asthmatic patients with moderate to severe respiratory distress in the Emergency Department

**Approval Status (Dates)**

| Version/Revision | MDC Submission | MDC Approval |
|---|---|---|
| Version 1 | Nov 30, 2009 | Dec 11, 2009 |
| Version 2 | Aug 1, 2010 | Aug 10, 2010 |
| Version 2.1 | Nov 9, 2012 | |
| Version 3 | July 14, 2014 | October 22, 2014 |
| Version 4 | November 2017 | |

**Effective Date:** December 11, 2017 **Directive Number: 2022**
**Renewal Frequency:** ☐ 3 years ☑ Other (may not exceed 3 years):
**Expiry Date:** March 31, 2018

2. **Contact Information**
**Area of Practice:** Emergency Department
**Medical Director:** Medical Director, Emergency Department **Extension:** 2899
**Developed By:** Dr. Roger Zemek **Extension:** 2318

3. **Purpose Statement**
This medical directive allows nurses (RN) or respiratory therapists (RRT) to initiate and administer an oral steroid dose to Emergency Department (ED) patients with a history of asthma presenting with moderate to severe asthma exacerbations. Oral corticosteroids are the gold standard treatment in children and adults presenting with moderate to severe asthma to the emergency department, reducing by 25% the risk of hospital admission when administered within an hour of triage. This will allow the initiation of therapy for patients with moderate to severe asthma exacerbations prior to assessment by the physician. Choice of medication will be determined by whether the patient can swallow tablets (prednisone) or needs a liquid suspension (dexamethasone, prednisolone, prednisone – determined by medication availability). Dosage of medication will be dictated by the patient's weight. Patient eligibility will be determined by the patient's Pediatric Respiratory Assessment Measure (PRAM) score upon arrival to the ED.

4. **Personnel Authorized to Implement the Medical Directive**
- All staff, following appropriate orientation, must demonstrate the knowledge, skill and judgement required to apply the medical directive
  - RN hired in the ED
  - RN on the Float Team who have received training/orientation and are working in the ED
  - RRT working in the ED

5. **Patient Population and Indications**
- Alert and oriented
- Aged 1 to 17 years
- History of asthma with the use of bronchodilator(s) for prior exacerbations
- Triage PRAM (Pediatric Respiratory Assessment Measure) score of 4 to 11.

6. **Contraindications**
- PRAM score < 4
- CTAS (Canadian Triage and Acuity Score) 1 or PRAM = 12
- Any use of oral corticosteroid in the past 14 days – **DISCUSS WITH MD FIRST**
- Three prior courses of oral steroids in the past year – **DISCUSS WITH MD FIRST**
- Hypersensitivity to prednisone, prednisolone, dexamethasone or oral corticosteroids
- Patients meeting any exclusion criteria from the asthma critical pathway
- Patients with respiratory condition such as bronchopulmonary dysplasia and cystic fibrosis
- Patients with cardiac, metabolic, immunological disease, or history of adrenal suppression
- Patients with co-existing acute illness such as pneumonia, pertussis, or croup
- Exposure to varicella in the previous 3 weeks in a susceptible child.

**7. Description of the Procedure**

a) Identify ED patients with breathing difficulty and a history of asthma, as per the Asthma critical pathway inclusion/exclusion criteria

b) Complete a respiratory assessment using PRAM (see below) and baseline vital signs, and document within the appropriate sections of the patients health record.

c) Weigh the patient and document

d) Determine the appropriate CTAS and treatment regimen based on the patient's PRAM

- ❑ PRAM score 1 – 3: patient will be managed per the initial bronchodilator medical directive only
- ❑ PRAM score 4 – 11: patient will be managed per the initial bronchodilator medical directive and receive one dose of oral steroid, as per the dosing in the table below. This will be given as prednisone tablets, dexamethasone elixir, elixir, prednisolone suspension, or prednisone suspension (depending on drug availability) immediately following the first bronchodilator treatment and before the second dose of the initial three back to back bronchodilator treatments. (Specifically, the patient will receive the 1st inhaled treatment, then oral psteroid, then the 2nd inhaled treatment, and then their 3rd inhaled treatment).
- ❑ PRAM score 12: notify physician immediately for consideration of IV corticosteroid

e) **Any questions regarding the appropriateness or dosage of prednisone/prednisolone/ dexamethasone should be discussed with the physician prior to administration.**

f) **When an RN and RRT are working together to provide care for the patient, they must verbally communicate the assessment, plan and medications administered with each other, in addition to documenting within the electronic medication administration record (eMAR).**

g) **If at any time the patient no longer responds appropriately to treatment or deteriorates, immediately notify the physician.**

**PEDIATRIC RESPIRATORY ASSESSMENT MEASURE (PRAM)**

| | 0 | 1 | 2 | 3 |
|---|---|---|---|---|
| Suprasternal Indrawing | absent | | present | |
| Scalene retractions | absent | | present | |
| Wheezing | absent | expiratory | inspiratory and expiratory | Audible without stethoscope/ absent with no air entry |
| Air entry | normal | decreased at bases | widespread decrease | absent/ minimal |
| Oxygen saturation | ≥ 95% | 92%-94% | < 92% | |

| Severity Classification | PRAM Clinical Score |
|---|---|
| Mild | 1 – 3 |
| Moderate | 4 – 7 |
| Severe | 8 – 12 |
| Impending Respiratory Failure | 12 plus following lethargy, cyanosis, decreasing respiratory effort, and/or rising $pC0_2$ |

## *MEDICATION DOSAGES*

| **Prednisone Oral 5 or 50mg Tablets** |
|---|
| 2 mg / kg to a maximum of 50 mg (round up to the nearest 5 mg) |
| **Dexamethasone Oral Elixir (1st choice if available) (1 mg / 1 ml)** |
| 0.3 mg / kg to a maximum of 10 mg (round up to the nearest 1 mg) |
| **Prednisolone Oral Suspension (2nd choice if available) (1 mg / 1 ml)** |
| 2 mg / kg to a maximum of 50 mg (round up to the nearest 1 mg) |

| Prednisone Oral Suspension (last choice)<br>(5 mg / 1 ml) |
|---|
| 2 mg / kg to a maximum of 50 mg (round up to the nearest 1 mg) |

**8. Consent and Documentation**

- Verbal consent will be obtained from the patient/parent prior to administration of the medication. Any refusal of treatment will be documented. Documentation of the medication, indicating "as per medical directive #2022", will be made in the patient's health record, as appropriate

**9. Quality Management Process**

- All RNs and RRTs will be educated about the purpose, indications and contraindications, and possible complications for administration of oral prednisone/prednisolone/dexamethasone by the clinical educator or delegate.
- All safety reports related to the administration of oral prednisone/prednisolone under this medical directive will be reviewed by the clinical manager, director and medical director. A copy will be forwarded to the Chair of the Medical Directives Committee.
- Prior to renewal of this medical directive, audits will be conducted to verify that the medical directive is being used appropriately.

**10. References and Resources**


- CHEO:
  - Medical Directives Policy
  - Medical Directive # 2017 – Initial bronchodilator therapy for known asthmatic patients in the Emergency Department
- College of Nurses of Ontario (CNO):
  - Practice Guidelines:
    - Authorizing Mechanisms (rev. November 2013)
    - Consent (rev. June 2009)
    - Directives (rev. November 2011)
  - Practice Standards:
    - Decisions About Procedures and Authority, Revised 2013
    - Documentation, Revised 2008 (rev. June 2009)
    - Medication, Revised 2014
    - Professional Standards, Revised 2002 (rev. June 2009)
  - The Regulated Health Professions Act (RHPA): Scope of Practice, Controlled Acts Model (2011)
- College of Physicians and Surgeons of Ontario: Delegation of Controlled Acts 2012
- College of Respiratory Therapists of Ontario: Position Statement – Medical Directives and the Ordering of Controlled Acts, September 2012.
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