Respiratory Clinic: Clinical Guidelines for Pediatric Patients

See Addendum 1 for differential diagnosis for pediatric patients with respiratory symptoms
See Addendum 2 for on-site medications at Respiratory clinic and CHA pharmacy information

These guidelines are designed to simplify and streamline care during the COVID-19 pandemic. They are created to assist healthcare providers in clinical decision making. The ultimate judgment about care of a particular patient will be made by the healthcare provider and patient/parent in light of all the current circumstances.

Guideline developed by Dr Lara Hall, Dr Kathe Miller and Dr Julia Randall in consultation with CHA Department of Pediatrics.

Current knowledge suggests that pediatric patients (under age 19) will most likely have mild symptoms if they contract COVID19.

RC: Respiratory Clinic

**Testing:**
- For COVID testing, see CHA guidelines
- Rapid strep testing and influenza testing will not be performed; treat empirically as indicated

**Imaging:**
- CXR:
  - Not necessary before empirically treating community acquired pneumonia
  - Not recommended routinely in cases of suspected COVID-19
  - Only recommended if the result will significantly change management > if you feel that a pediatric patient is ill enough to potentially benefit from imaging, refer the child to be triaged to a Pedi ED for overall assessment and care

**For newborns born to COVID+ mothers:**
- Lactation support: NewEnglandMothersFirst.com and LCHomeVisits.com are doing televisits for lactation (as of 4/30/20)
  - New England Mothers First isn't charging a copay for their visits -- no upfront fees and they bill MassHealth and most other plans
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**Treatment:**

**Presumed/confirmed COVID-19:**
- Supportive care
- NSAIDS in patients with suspected/confirmed COVID-19 as antipyretic are not contraindicated.

**Community Acquired Pneumonia:**
- For patients under 6 months consider triage to ED (MGH, BMC, Children’s, Floating) due to higher risk
- Amoxicillin 90 mg/kg/d divided BID, (max dose 3000g amox per day) x 10 days
- Over 5 years:
  - If PCN allergy, not anaphylactic:
    - For children who can take pills: cefuroxime 500 mg BID
    - For children who need liquid meds: cefdinir 14 mg / Kg (max 600 mg / day) QD or div BID
  - If PCN allergy, anaphylactic: azithromycin 10mg/kg/d for 1 dose then 5 mg/kg/d for 4 more days (max dose 500mg day 1)

**Asthma exacerbation:**
- Corticosteroids: Use of steroids (PO and inhaled) in the outpatient setting: use if clinically indicated for conditions such as asthma exacerbation, even in the setting of suspected/confirmed COVID-19 > this includes po steroid burst and/or starting/restarting/increasing dose of inhaled corticosteroids.
  - Consider single dose dexamethasone IM or PO in RC:
    - 5-8 kg: 4 mg
    - 8-12 kg: 6 mg
    - > 12 kg: 8 mg
  - Can prescribe second PO dose if needed for home administration after 24-48 hours, although many outpatient pharmacies do not stock it consistently; thus consider prednisone/prednisolone if not improved after single dose of dexamethasone
  - Can consider oral corticosteroid burst as indicated:
    - If cannot take pills: Prednisolone (15 mg / 5 ml)
      - ≤ 15 kg: 5 ml BID x 5 days
      - > 15 kg: 7.5 ml BID x 5 days
    - If can take pills: prednisone upper limit 20 mg BID x 5 days
  - If not dramatically better after 48 hours, there may be an underlying diagnosis; e.g CAP.
  - Inhaled corticosteroids as indicated with spacer
- Albuterol
  - Albuterol rescue 4-6 puffs Q 20 minutes up to three times is fine, even in small children
  - Albuterol MDI with spacer available on-site to be clinically administered as needed (in place of nebulizer)
  - Note: patient should be instructed to use MDI with spacer preferentially over nebulizer at home
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Strep Throat Treatment:
- Empiric
  - Moxicillin 50 mg/kg once daily for 10 days

Influenza - will be clinical diagnosis as not doing swabs for pediatric patients:
- Oseltamivir
  - Should be reserved for use in the first 72 hours of presentation
  - Consider treatment more strongly if high suspicion for influenza with known influenza close contact
  - Dosing:
    - < 15 kg: 3 mg / kg / day BID x 5 days (not recommended in infants < 2 weeks old)
    - > 15 to 23 kg: Oral: 45 mg BID x 5 days
    - > 23 to 40 kg: Oral: 60 mg BID x 5 days
    - > 40 kg: Oral: 75 mg BID x 5 days

Transfer to NON CHA ED:
If ED transfer/triage is indicated for a pediatric patient, refer to MGH, BMC, Children’s, Floating (due to higher risk)

Consider transfer to ED if one or more of the following:
- Room air O2 saturation below 94%
- Respiratory distress not relieved by RC treatments
- Serious concern for pulmonary embolism
- Serious concern for cardiac etiology
- Inability to orally hydrate

* The ultimate judgment about care of a particular patient will be made by the healthcare provider and patient/parent in light of all the circumstances presented by that patient.
### Addendum 1: Differential Diagnosis for Pediatric Patients at Respiratory Clinic

<table>
<thead>
<tr>
<th>Differential Dx</th>
<th>Relevant Hx + Symptoms</th>
<th>Relevant Signs</th>
<th>Potential Treatments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Community acquired pneumonia</strong></td>
<td>delayed onset of cough, fever chills, especially productive cough can be acute onset or follow URI symptoms</td>
<td>High fever, wet sounding cough, asymmetrical pulmonary exam w/ decreased or bronchial breath sounds, crackles</td>
<td>for &lt;6 mos consider ER triage to MGH, BMC, Children’s, Floating (NOT to CHA) due to higher risk. Otherwise, if not hypoxic and nontoxic appearing consider <strong>Amoxicillin</strong> 90 mg/kg/day divided into BID (max 3,000mg/day) for 10 days <strong>If PCN allergy, not anaphylaxis</strong>, &gt; for children who can take pills: cefuroxime 500 mg BID &gt; For children who need liquid meds: cefdinir 14 mg / Kg (max 600 mg / day) QD or div BID <strong>If anaphylactic, azithromycin</strong> 10 mg/kg/d day 1 then 5 mg/kg/d for 4 more days</td>
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<tr>
<td><strong>Asthma exacerbation</strong></td>
<td>Hx asthma</td>
<td>wheezing or poor air movement</td>
<td><strong>Albuterol MDI + Spacer</strong> Single dose dexamethasone PO or IM in respiratory clinic, dosed by weight 0.6mg/kg or as below. Patient can be prescribed additional dose for home use after between 24-48hrs if sx have not resolved, although many outpatient pharmacies do not stock it consistently; thus consider prednisone/prednisolone if not improved after single dose of dexamethasone:</td>
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<td></td>
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<td>5-8kg</td>
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<td>&gt;12kg</td>
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<td></td>
<td>&gt;Can consider oral corticosteroid burst as indicated: &gt; If cannot take pills: Prednisolone (15 mg / 5 ml)</td>
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<tr>
<td>Condition</td>
<td>Signs/Tests</td>
<td>Treatment/Recommendation</td>
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<td>Bronchiolitis /RSV</td>
<td>Harsh cough, fever, retractions, tachypnea, diffuse bronchial sounds on exam</td>
<td>To ED (NOT CHA) if hypoxic (O2 sat below 94) or in resp distress, o/w home care</td>
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<td>Croup</td>
<td>Gets better in cool air</td>
<td>0.6 mg/kg dexamethasone PO or IM one dose Or Prednisolone 3 mg / KG divided BID X 3 days</td>
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<tr>
<td>Pulmonary embolism</td>
<td>Hx of precipitating factor, travel, sedentary, OCPs etc</td>
<td>Send to ED for work-up based on clinical suspicion</td>
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<tr>
<td>Influenza</td>
<td>Sudden onset of multiple symptoms</td>
<td>Oseltamivir - should be reserved for first 72h &gt; teenagers—75 mg bid x 5 days. &gt; Children ≥ 1 yo - weight-based: 30 to 75 mg bid x 5d &gt; children 2wks-1 yo: 3 mg/kg bid x5d &gt; children &lt; 2wks; not recommended</td>
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<tr>
<td>Strep throat</td>
<td>Fever and sore throat</td>
<td><strong>Amoxicillin</strong> 50 mg/kg/day in divided doses every 8 hours; maximum dose: 500 mg/dose If swallow pills: <strong>Penicillin</strong> 500mg BID x10 days</td>
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<tr>
<td>Pertussis</td>
<td>Predominant cough, post-tussive vomiting</td>
<td>Consider diagnostic testing (but currently not available at RC)</td>
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<tr>
<td>Anxiety/panic attack</td>
<td>Anxiety</td>
<td>Relaxation techniques</td>
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</table>
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| Seasonal allergies | Itching, sneezing | Antihistamines, nasal corticosteroids |

IMPORTANT NOTE: Patient might have any of the above IN ADDITION to COVID-19 infection and this should also always be considered.
On Site medications for dosing in clinic:

- Prednisone 20mg tablets
- Prednisolone syrup 15mg/5cc
- Dexamethasone injectable 4mg/cc
- Acetaminophen tablets (325) and liquid (160mg/5cc)
- Ibuprofen tablets (200) and liquid (100mg/5cc)
- Narcan nasal spray
- Albuterol MDI*
- Ipratropium MDI*
- Combivent MDI*
- Spacers (for use with ALL MDI)*

*MDI and spacers will be sent home with patients

How to use MDI with spacer

Information:

- Give day 1 dose in clinic when possible (e.g. day 1 of prednisone burst)
- Offer patient options - delivery, curbside, or have friend/family pick up meds
- If delivery option, assume patient may not receive meds until following day
- Discuss process for delivery with patient

CHA PHARMACY INFO

- Cambridge Hospital: M-F 830a-8p and Sa/Su 9a-3p 617-665-1438
- Gore Street (East Cambridge) M-F 8-5 163 Gore St, Cambridge 617-499-6690
- Malden M-F 8-5, 195 Canal Street, Malden 781-338-8990

Pharmacy Pick-up, Delivery and Curbside Information:

1. Cambridge East and Malden Offer Curbside Pick-up (see hours above)
   a. Patient drives up to curbside
   b. CH staff greets patient
   c. Patient informs staff member that they are there for pick-up
   d. Staff will go in and get medication for patient
   e. Give 1 hour minimum so prescriptions are ready

2. CHA Pharmacy Delivery
   a. All medications can be delivered if prescribed prior to 12 pm or will be delivered the next day. Meds can be delivered statewide.
   b. Provider prescribes medication to appropriate CHA pharmacy (if they live close to Malden, prescribe to Malden pharmacy). This is not very important. Pharmacies do communicate with each other.
   c. Patient has to call CH pharmacy to confirm medication delivery, confirm that they will stay home the day of delivery, and discuss payment.
      i. CH pharmacy number (617) - 665 -1438
      ii. Malden Pharmacy: 781-338-8990
d. Patient can request preferred language when the pharmacist picks up the phone