**Pulmonology**

**Uncontrolled Asthma**

| **Background** | Persistent Asthma is an ongoing problem:
| --- | --- |
| | • Disease severity is often underestimated
| | • Despite Advanced Care, poor outcomes persist for many
| | • Compliance with therapies is often less than 50%
| | • Poor technique of inhaled medications is epidemic
| | • Routine follow up is inconsistent.

| **Initial Evaluation** | HISTORY:
| --- | --- |
| | • Asthma Triggers/Symptoms
| | • Response acute asthma therapy (Bronchodilator/ Systemic steroids
| | • Asthma controller therapy trials
| | • Frequency/Number of systemic steroids
| | • Frequency/Number of unplanned medical visits, ED visits, hospitalizations, PICU admissions, intubations.
| | • Other Atopy (eg allergic rhinitis, eczema, known allergies)
| | • Family History of Asthma and Allergies
| LUNG EXAM:
| | • Resp Rate, O2 saturations , work of breathing, lung exam including presence of adventitious breath sounds
| DIAGNOSTIC TESTING:
| | • Baseline CXR (PA and lateral)
| | • Consider spirometry if 5 years of age and if available
| | • Consider Immunocap [allergy] testing acknowledging limitations.

| **Initial Management** | RESCUE THERAPY for ALL asthma patients.
| --- | --- |
| | • Consider duplicate medications for school use and divided homes.
| | • Some patients require pretreatment with exercise.
| | • Increase number of puffs via MDI to administer equivalent of a neb treatment (reference below)
| CONTROLLER PREVENTATIVE THERAPY:
| | • “Preferred” therapy is inhaled corticosteroid (inhCS; Alternative Montelukast.
| | • Addition of long acting beta-2 agonist (LABA) for moderate to severe persistent asthma and/or not well controlled on inhCS alone. “Alternative” is addition of Montelukast
| UNCONTROLLED ASTHMA:
| | • Evaluate for noncompliance (eg pharmacy refill history)
| | • Evaluate technique and equipment (appropriately sized spacer, mask or mouthpiece with nebulizer.)
| | • Evaluate for exacerbating factors (eg smoke, allergens) and consider empiric avoidance measures and/or allergy testing if indicated
| | • Consider exacerbating comorbidities (eg atopy, post nasal drip, GERD.)
| CONSIDER “MASQUERADERS” OF ASTHMA:
| | • Evaluate for other disease entities that can mimic or exacerbate asthma (eg Vocal Cord Dysfunction – handout below; often requires a referral.)
| ASTHMA ACTION PLAN:
| | • Provide at initial visit, yearly and prn. *Many schools require completion of their own form. Consider endorsing self-administration of rescue therapy during school if appropriate.
### Pulmonology

#### Uncontrolled Asthma

<table>
<thead>
<tr>
<th><em>always consider ease of use, best technique for optimal lung deposition, convenience and cost when considering mode of delivery (wet neb vs meter dose inhaler vs dry powder inhaler.)</em></th>
</tr>
</thead>
</table>

### When to Refer

Refer patients for any of the following:

- Failed 2 month trial period of controller medication (inhCS) for persistent asthmatics
- Life Threatening Asthma
- Hospitalization(s) for Asthma
- Frequent systemic steroids (≥2/yr)
- Severe persistent or ≥ Step IV NIH Guidelines (med dose inhCS + another agent)
- Significant Co-morbidities
- Need for diagnostic testing or indeterminate diagnosis
- Need for further education/training

### Pre-Visit Work Up

- Documentation of failed 2mo trial period of controller medications (which includes an inhCS)
- Pertinent history, abnormal physical exam findings
- Baseline CXR (PA and lateral)
- Spirometry and allergy testing results as available

### Co-mgt Strategy (as appropriate)

**Specialist scope of care**

- Confirm diagnosis
- Address comorbidities
- Pulmonary Function Testing when appropriate.
- Compose and modify asthma action plan
- Achieve control (absence or minimal baseline symptoms, absence or minimal exacerbations)
- Limited # of maintenance/acute visits

**Primary care scope of care**

- Reinforce specialists asthma action plan
- Assume maintenance visits after control achieved

### Return to Primary Care

May discharge from specialty clinic when disease is in the intermittent or mild persistent category. Consider when disease is moderate, persistent but well controlled.

### Guidelines Referenced

- Inhaler Handouts [http://www.med.umich.edu/1info/FHP/practiceguides/asthma/various.pdf](http://www.med.umich.edu/1info/FHP/practiceguides/asthma/various.pdf)