Asthma – ED/Inpatient*

History to Elicit	Time of onset, causes/triggers, symptom severity, prior treatments before presentation, last time of medications, last dose of oral steroids and past requirements for oral steroid doses.
Exam	Tachypnea, hypoxia, altered mental status, accessory muscle use, URI symptoms, wheezing, prolonged expiratory phase, eczema, rash **Red flags**: dehydration, cyanosis/pallor, decreased aeration, AMS, admission w/i 1 year, ICU admission w/i 3 years, PCP/ED visit w/i 72 hours
Etiology	Trigger → Production of IgE antibodies, overstimulation of mast cells/eosinophils → Inflammation, airway smooth muscle constriction, mucus production, edema → hyper-responsiveness of airway, obstruction, air-trapping → airway remodeling
Work-up	Assess severity w/ amount of dyspnea, RR, retractions, inspiratory vs. expiratory wheezes, and SpO2. I Not routinely recommended: CXR (unless prolonged fever, asymmetry post-albuterol, severe symptoms, hypoxemia, aspiration concern), viral testing, blood gas
Treatment	

Albuterol	For mild-severe exacerbation MDI or nebulizer, base frequency on severity For MDI must use an aerochamber. In general, use w/ face mask (<6 mos = small orange facemask, 6 mos-6 yrs = medium yellow facemask, >6 years = large blue facemask)
UniNeb	For moderate-severe exacerbation 3 albuterol + 3 ipratropium over 1 hr
Systemic Corticosteroids	For moderate-severe exacerbation Dexamethasone Prednisone, prednisolone, or methylprednisolone
Epinephrine	For severe exacerbation Administer by EpiPen if able
Magnesium Sulfate	For severe exacerbation Administer w/ 20 cc/kg bolus of normal saline before dose to decreased risk of hypotension
Terbutaline	For severe exacerbation
Heliox (80% He + 20% O2)	For severe exacerbation Contraindications: Requiring FiO2 >0.6 to maintain SpO2 >92%, Need for PPV, PTX, pneumopericardium, pneumoperitoneum

Asthma – Outpatient*

Order Sets	"Asthma admit plan" (includes albuterol, Unineb, etc orders)
History to Elicit	Symptoms, nocturnal awakening, missed school, hospitalizations (ED, ICU, ETT), triggers, controllers, albuterol use, adherence, atopic history, vaccines, requirement for oral steroid courses.
Presentation	SOB, coughing, wheezing, chest tightness • **Exam:** Tachypnea, hypoxia, altered mental status, accessory muscle use, URI symptoms, wheezing, prolonged expiration, eczema, rash
Etiology	Trigger → Production of IgE antibodies, overstimulation of mast cells/eosinophils → Inflammation, airway smooth muscle constriction, mucus production, edema → hyper-responsiveness of airway, obstruction, air-trapping → airway remodeling
Workup	PFTs +/- provocation test, other testing as suggested by differential diagnosis (immune work-up, GERD evaluation, allergy testing, sweat test, etc.)

Asthma continued on next page →