

Guideline for Hospital Admission

Ministry of Public Health - Lebanon

Asthma exacerbation

In evaluating the need for hospital admission of patients presenting with asthma exacerbation, the following table may be useful in guiding decision-making.

Formal evaluation of asthma exacerbation severity in the urgent or emergency care setting:

	Mild	Moderate	Severe	Subset: Respiratory Arrest Imminent
Symptoms				
Breathlessness	While walking Can lie down	While at rest (infant—softer, shorter cry, difficulty feeding) Prefers sitting	While at rest (infant—stops feeding) Sits upright	
Talks in	Sentences	Phrases	Words	
Alertness	May be agitated	Usually agitated	Usually agitated	Drowsy or confused
Signs				
Respiratory rate	Increased	Increased Guide to rates of breathing in awake children: Age <2 months 2–12 months 1–5 years 6–8 years	Often >30/minute Normal rate <80/minute <50/minute <40/minute <30/minute	
Use of accessory muscles; suprasternal retractions	Usually not	Commonly	Usually	Paradoxical thoracoabdominal movement
Wheeze	Moderate, often only end expiratory	Loud; throughout exhalation	Usually loud; throughout inhalation and exhalation	Absence of wheeze
Pulse/minute	<100	100–120 Guide to normal pulse rates in children: Age 2–12 months 1–2 years 2–8 years	>120 Normal rate <180/minute <120/minute <110/minute	Bradycardia
Pulsus paradoxus	Absent <10 mmHg	May be present 10–25 mmHg	Often present >25 mmHg (adult) 20–40 mmHg (child)	Absence suggests respiratory muscle fatigue

Notes:

- The presence of several parameters, but not necessarily all, indicates the general classification of the exacerbation.
- Many of these parameters have not been systematically studied, especially as they correlate with each other. Thus, they serve only as general guides (Cham et al. 2002; Chey et al. 1999; Gorelick et al. 2004b; Karras et al. 2000; Kelly et al. 2002b and 2004; Keogh et al. 2001; McCarren et al. 2000; Rodrigo and Rodrigo 1998b; Rodrigo et al. 2004; Smith et al. 2002).
- The emotional impact of asthma symptoms on the patient and family is variable but must be recognized and addressed and can affect approaches to treatment and followup (Ritz et al. 2000; Strunk and Mrazek 1986; von Leupoldt and Dahme 2005).

Hospital admission is not recommended for patients with Mild presentation.

Hospital admission may be required for patients with Moderate presentation.

Hospital admission is necessary for patients with Severe presentation or Imminent Respiratory Arrest.

References:

Managing Exacerbations of Asthma, (2007). *The National Heart, Lung, and Blood Institute*. United States.

Checklist:

	Mild	Moderate	Severe	Subset: Respiratory Arrest Imminent
Symptoms				
Breathlessness	<input type="checkbox"/> While walking <input type="checkbox"/> Can lie down	<input type="checkbox"/> While at rest (infant— softer, shorter cry, difficulty feeding) <input type="checkbox"/> Prefers sitting	<input type="checkbox"/> While at rest (infant— stops feeding) <input type="checkbox"/> Sits upright	
Talks in	<input type="checkbox"/> Sentences	<input type="checkbox"/> Phrases	<input type="checkbox"/> Words	
Alertness	<input type="checkbox"/> May be agitated	<input type="checkbox"/> Usually agitated	<input type="checkbox"/> Usually agitated	<input type="checkbox"/> Drowsy or confused
Signs				
Respiratory rate	<input type="checkbox"/> Increased	<input type="checkbox"/> Increased	<input type="checkbox"/> Often >30/minute	
Use of accessory muscles; suprasternal retractions	<input type="checkbox"/> Usually not	<input type="checkbox"/> Commonly	<input type="checkbox"/> Usually	<input type="checkbox"/> Paradoxical thoracoabdominal movement
Wheeze	<input type="checkbox"/> Moderate, often only end expiratory	<input type="checkbox"/> Loud; throughout exhalation	<input type="checkbox"/> Usually loud; throughout inhalation and exhalation	<input type="checkbox"/> Absence of wheeze
Pulse/minute	<input type="checkbox"/> <100	<input type="checkbox"/> 100–120	<input type="checkbox"/> >120	<input type="checkbox"/> Bradycardia
Pulsus paradoxus	<input type="checkbox"/> Absent <10 mmHg	<input type="checkbox"/> May be present 10–25 mmHg	<input type="checkbox"/> Often present >25 mmHg (adult) 20–40 mmHg (child)	<input type="checkbox"/> Absence suggests respiratory muscle fatigue
