

# Acute Asthma and Status Asthmaticus

Tadahiro Goto  
Kohei Hasegawa

## REFERENCES

- Blackwell DL, Lucas JW, Clarke TC: Summary health statistics for U.S. adults: national health interview survey, 2012. *Vital Health Stat* 10 260: 1, 2014. [PMID: 24819891]
- Bloom B, Cohen RA, Freeman G: Summary health statistics for U.S. children: National Health Interview Survey, 2010. *Vital Health Stat* 10 250: 1, 2011. [PMID: 22338334]
- Oraka E, Kim HJ, King ME, Callahan DB: Asthma prevalence among US elderly by age groups: age still matters. *J Asthma* 49: 593, 2012. [PMID: 22765313]
- Kudo M, Ishigatsubo Y, Aoki I: Pathology of asthma. *Front Microbiol* 4: 263, 2013. [PMID: 24032029]
- Saraya T, Kurai D, Ishii H, et al: Epidemiology of virus-induced asthma exacerbations: with special reference to the role of human rhinovirus. *Front Microbiol* 5: 226, 2014. [PMID: 24904541]
- Greenberg S: Asthma exacerbations: predisposing factors and prediction rules. *Curr Opin Allergy Clin Immunol* 13: 225, 2013. [PMID: 23635528]
- Bonds RS, Midoro-Horiuti T: Estrogen effects in allergy and asthma. *Curr Opin Allergy Clin Immunol* 13: 92, 2013. [PMID: 23090385]
- <http://www.ginasthma.org/>. (Global Strategy for Asthma Management and Prevention. 2018.) Accessed June 15, 2018.
- <https://www.brit-thoracic.org.uk/document-library/clinical-information/asthma/btsgn-asthma-guideline-2016/>. (British Guideline on the Management of Asthma: A National Guideline. 2016.) Accessed June 15, 2018.
- <http://www.asthmahandbook.org.au>. (Australian Asthma Handbook. 2017.) Accessed June 18, 2018.
- <http://www.nhlbi.nih.gov/guidelines/asthma/asthgdln.pdf>. (National Asthma Education and Prevention Program, Expert Panel Report 3: Guidelines for the Diagnosis and Management of Asthma. 2007.) Accessed June 15, 2018.
- Shim CS, Williams MH Jr: Evaluation of the severity of asthma: patients versus physicians. *Am J Med* 68: 11, 1980. [PMID: 7350797]
- Kelly AM, Kerr D, Powell C: Is severity assessment after one hour of treatment better for predicting the need for admission in acute asthma? *Respir Med* 98: 777, 2004. [PMID: 15303644]
- Rodrigo GJ, Rodrigo C, Hall JB: Acute asthma in adults: a review. *Chest* 125: 1081, 2004. [PMID: 15006973]
- Corbo J, Bijur P, Lahn M, Gallagher EJ: Concordance between capnography and arterial blood gas measurements of carbon dioxide in acute asthma. *Ann Emerg Med* 46: 323, 2005. [PMID: 16187465]
- Delemer S, Freund Y, Renault R, et al: Concordance between capnography and capnia in adults admitted for acute dyspnea in an ED. *Am J Emerg Med* 28: 711, 2010. [PMID: 20637388]
- Beng Leong L, Vasu A, Cham Wai Ming G: Identifying adult asthmatic patients with an abnormal chest radiograph in the emergency department. *Eur J Emerg Med* 19: 95, 2012. [PMID: 21730867]
- Farne HA, Wilson A, Powell C, Bax L, Milan SJ: Anti-IL5 therapies for asthma. *Cochrane Database Syst Rev* 9: CD010834, 2017. [PMID: 28933516]
- Ortega HG, Liu MC, Pavord ID, et al: Mepolizumab treatment in patients with severe eosinophilic asthma. *N Engl J Med* 371: 1198, 2014. [PMID: 25199059]
- Wilkinson M, Bulloch B, Garcia-Filion P, Keahey L: Efficacy of racemic albuterol versus levalbuterol used as a continuous nebulization for the treatment of acute asthma exacerbations: a randomized, double-blind, clinical trial. *J Asthma* 48: 188, 2011. [PMID: 21275850]
- Khorfan FM, Smith P, Watt S, Barber KR: Effects of nebulized bronchodilator therapy on heart rate and arrhythmias in critically ill adult patients. *Chest* 140: 1466, 2011. [PMID: 21960699]
- Douglass JA, Goeman DP, McCarthy EA, et al: Over-the-counter beta2-agonist purchase versus script: a cross-sectional study. *Respir Med* 106: 223, 2012. [PMID: 22040532]
- Cates CJ, Welsh EJ, Rowe BH: Holding chambers (spacers) versus nebulisers for beta-agonist treatment of acute asthma. *Cochrane Database Syst Rev* 9: CD000052, 2013. [PMID: 24037768]
- Papi A, Corradi M, Pigeon-Francisco C, et al: Beclometasone-formoterol as maintenance and reliever treatment in patients with asthma: a double-blind, randomised controlled trial. *Lancet Respir Med* 1: 23, 2013. [PMID: 24321801]
- Travers AH, Milan SJ, Jones AP, Camargo CA Jr, Rowe BH: Addition of intravenous beta(2)-agonists to inhaled beta(2)-agonists for acute asthma. *Cochrane Database Syst Rev* 12: CD010179, 2012. [PMID: 23235685]
- Rowe BH, Spooner C, Ducharme FM, Bretzlaff JA, Bota GW: Early emergency department treatment of acute asthma with systemic corticosteroids. *Cochrane Database Syst Rev* 1: CD002178, 2001. [PMID: 11279756]
- Emerman CL, Cydulka RK: A randomized comparison of 100-mg vs 500-mg dose of methylprednisolone in the treatment of acute asthma. *Chest* 107: 1559, 1995. [PMID: 7781346]
- Kravitz J, Dominici P, Ufberg J, Fisher J, Giraldo P: Two days of dexamethasone versus 5 days of prednisone in the treatment of acute asthma: a randomized controlled trial. *Ann Emerg Med* 58: 200, 2011. [PMID: 21334098]
- Cossette B, Beauchesne MF, Forget A, et al: Systemic corticosteroids for the treatment of asthma exacerbations during and outside of pregnancy in an acute-care setting. *Respir Med* 108: 1260, 2014. [PMID: 25060542]
- Rowe BH, Spooner CH, Ducharme FM, Bretzlaff JA, Bota GW: Corticosteroids for preventing relapse following acute exacerbations of asthma. *Cochrane Database Syst Rev* 3: CD000195, 2007. [PMID: 17636617]
- Lahn M, Bijur P, Gallagher EJ: Randomized clinical trial of intramuscular vs oral methylprednisolone in the treatment of asthma exacerbations following discharge from an emergency department. *Chest* 126: 362, 2004. [PMID: 15302718]
- Edmonds ML, Milan SJ, Camargo CA Jr, Pollack CV, Rowe BH: Early use of inhaled corticosteroids in the emergency department treatment of acute asthma. *Cochrane Database Syst Rev* 12: CD002308, 2012. [PMID: 23235589]
- Cydulka RK, Tamayo-Sarver JH, Wolf C, Herrick E, Gress S: Inadequate follow-up controller medications among patients with asthma who visit the emergency department. *Ann Emerg Med* 46: 316, 2005. [PMID: 16187464]
- Price D, Fletcher M, van der Molen T: Asthma control and management in 8,000 European patients: the REcognise Asthma and Link to Symptoms and Experience (REALISE) survey. *NPJ Prim Care Respir Med* 24: 14009, 2014. [PMID: 24921985]
- Williams LK, Peterson EL, Wells K, et al: Quantifying the proportion of severe asthma exacerbations attributable to inhaled corticosteroid nonadherence. *J Allergy Clin Immunol* 128: 1185, 2011. [PMID: 22019090]
- Rodrigo GJ, Castro-Rodriguez JA: Anticholinergics in the treatment of children and adults with acute asthma: a systematic review with meta-analysis. *Thorax* 60: 740, 2005. [PMID: 16055613]
- Cydulka RK, Emerman CL, Muni A: Levalbuterol versus levalbuterol plus ipratropium in the treatment of severe acute asthma. *J Asthma* 47: 1094, 2010. [PMID: 20923385]
- Leykum LK, Huerta V, Mortensen E: Implementation of a hospitalist-run observation unit and impact on length of stay (LOS): a brief report. *J Hosp Med* 5: E2, 2010. [PMID: 20717893]
- Kew KM, Kirtchuk L, Michell CI: Intravenous magnesium sulfate for treating adults with acute asthma in the emergency department. *Cochrane Database Syst Rev* 5: CD010909, 2014. [PMID: 24865567]
- Blitz M, Blitz S, Hughes R, et al: Aerosolized magnesium sulfate for acute asthma: a systematic review. *Chest* 128: 337, 2005. [PMID: 16002955]
- Goodacre S, Cohen J, Bradburn M, et al: Intravenous or nebulised magnesium sulphate versus standard therapy for severe acute asthma (3Mg trial): a double-blind, randomised controlled trial. *Lancet Respir Med* 1: 293, 2013. [PMID: 24429154]
- Shirk MB, Donahue KR, Shirvani J: Unlabeled uses of nebulized medications. *Am J Health Syst Pharm* 63: 1704, 2006. [PMID: 16960254]
- Pallin M, Naughton MT: Noninvasive ventilation in acute asthma. *J Crit Care* 29: 586, 2014. [PMID: 24735521]
- Lim WJ, Mohammed Akram R, Carson KV, et al: Non-invasive positive pressure ventilation for treatment of respiratory failure due to severe acute exacerbations of asthma. *Cochrane Database Syst Rev* 12: CD004360, 2012. [PMID: 23235608]
- Goyal S, Agrawal A: Ketamine in status asthmaticus: a review. *Indian J Crit Care Med* 17: 154, 2013. [PMID: 24082612]
- Adnet F, Dhihi G, Borron SW, et al: Complication profiles of adult asthmatics requiring paralysis during mechanical ventilation. *Intensive Care Med* 27: 1729, 2001. [PMID: 11810115]
- Colebourn CL, Barber V, Young JD: Use of helium-oxygen mixture in adult patients presenting with exacerbations of asthma and chronic obstructive pulmonary disease: a systematic review. *Anaesthesia* 62: 34, 2007. [PMID: 17156225]
- Rodrigo GJ, Castro-Rodriguez JA: Heliox-driven beta2-agonists nebulization for children and adults with acute asthma: a systematic review with meta-analysis. *Ann Allergy Asthma Immunol* 112: 29, 2014. [PMID: 24331390]
- Nair P, Milan SJ, Rowe BH: Addition of intravenous aminophylline to inhaled beta(2)-agonists in adults with acute asthma. *Cochrane Database Syst Rev* 12: CD002742, 2012. [PMID: 23235591]
- Camargo CA Jr, Smithline HA, Malice MP, Green SA, Reiss TF: A randomized controlled trial of intravenous montelukast in acute asthma. *Am J Respir Crit Care Med* 167: 528, 2003. [PMID: 12456380]
- Watts K, Chavasse RJ: Leukotriene receptor antagonists in addition to usual care for acute asthma in adults and children. *Cochrane Database Syst Rev* 5: CD006100, 2012. [PMID: 22592708]