

Table 3E. Asthma Treatment: Prevention of Mortality

Referral Guideline	Rationale	Evidence Type
<p>Patients with potentially fatal asthma (prior severe, life threatening episode, intubation)</p>	<p>Improved pharmacologic therapy Inhaled steroids have been associated with significant reductions in risk for fatal and near-fatal exacerbation of asthma.¹</p> <p>Allergy/Immunology physicians prescribe inhaled steroids more frequently than primary care physicians, and patients seen and managed by Allergy/Immunology physicians are more likely to be taking inhaled steroids regularly.²⁻⁶</p> <p>Oral steroid use for attacks reduces the risk of fatal asthma.⁷⁻⁹ Patients managed by A/I physicians are more likely to appropriately receive oral steroids.^{6, 10, 11}</p> <p>Immunologic therapy Allergens may trigger severe and fatal asthma episodes.¹²</p> <p>Allergy/Immunology physicians have expertise in performance and interpretation of skin testing for immediate hypersensitivity, education to encourage aeroallergen avoidance, and provision of inhalant allergen immunotherapy in properly selected patients.¹³</p> <p>Allergen immunotherapy provides significant clinical benefit^{14, 15} including for alternaria¹⁶, which has been associated with life-threatening asthma.¹²</p> <p>Anti-IgE therapy has been shown to improve outcomes in high-risk patients^{17, 18}</p> <p>Objective monitoring of “poor perceivers” A major factor contributing to risk for fatal asthma outcomes is under-recognition of asthma; some asthmatic patients are “poor perceivers”.¹⁹</p> <p>Allergy/Immunology physicians perform objective measurements of lung function more frequently than other physicians.^{20, 21,}</p> <p>Action plans Action plans may reduce asthma mortality.⁷ Asthma specialists are more likely to provide action plans to their patients.²²⁻²⁴</p>	<p>Indirect outcome (inhaled and oral steroids)</p> <p>Indirect outcome (avoidance, immunotherapy)</p> <p>Diagnostic</p> <p>Indirect outcome (action plans)</p>

References:

1. Suissa S, Ernst P, Benayoun S, et al. Low-dose inhaled corticosteroids and the prevention of death from asthma. *N Engl J Med* 2000; 343: 332-6. Evidence grade: III
2. Legorretta AP, Christian-Herman J, O'Connor RD, et al. Compliance with national asthma management guidelines and specialty care: a health maintenance organization experience. *Arch Intern Med* 1998; 158: 457-64. Evidence grade: III
3. Hartert TV, Windom HH, Peebles RS, et al. Inadequate outpatient medical therapy for patients with asthma admitted to two urban hospitals. *Am J Med* 1996; 100: 386-94. Evidence grade: III
4. Blais R, Gregoire JP, Rouleau R, et al. Ambulatory use of inhaled β_2 -agonists for the treatment of asthma in Quebec: a population based utilization review. *Chest* 2001; 119: 1316-21. Evidence grade: III
5. Donahue JG, Fuhlbrigge AL, Finkelstein JA, et al. Asthma pharmacotherapy and utilization by children in 3 managed care organizations. *J Allergy Clin Immunol* 2000; 106: 1108-14. Evidence grade: III
6. Schatz M, Cook EF, Nakahiro R, Petitti D. Inhaled corticosteroids and allergy specialty care reduce emergency hospital use for asthma. *J Allergy Clin Immunol* 2003; 111: 503-8. Evidence grade: III
7. Abramson MJ, Bailey MJ, Couper FJ, et al. Are asthma medications and management related to deaths from asthma? *Am J Resp Crit Care Med* 2001; 163: 12-18. Evidence grade: III
8. Leung FW, Santiago SM, Klaustermeyer WB. Corticosteroid therapy and death in cases of adult bronchial asthma. *West J Med* 1983; 138: 565-69. Evidence grade: III
9. MRC: Controlled trial of effects of cortisone acetate in status asthmaticus. *Lancet* ii: 803-6, 1956. Evidence grade: Ib
10. Engel W, Freund DA, Stein JS, Fletcher RH. The treatment of patients with asthma by specialists and generalists. *Med Care* 1989; 27: 306-14. Evidence grade: III
11. Bucknall CE, Robertson C, Moran F, Stevenson RD. Differences in hospital asthma management. *Lancet* 1988; 1: 748-50. Evidence grade: III
12. O'Hollaren MT, Yunginger JW, Offord KP, et al. Exposure to an aeroallergen as a possible precipitating factor in respiratory arrest in young patients with asthma. *N Eng J Med* 1991; 324:359-63. Evidence grade: III
13. Allergy and Immunology Core Curriculum Outline 1996. Core Curriculum Subcommittee of the Training Program Directors. American Academy of Allergy, Asthma and Immunology. *J Allergy Clin Immunol* 1996; 98(6pt.1): 1012-5, updated 2002.http://www.aaaai.org/professionals/careers/training_programs.stm Evidence grade: IV
14. Joint Task Force on Practice Parameters. Allergen Immunotherapy: A practice parameter. *Ann Allergy Asthma Immunol* 2003; 90: S1-40. Evidence grade: IV

15. Abramson M, Puy R, Weiner J. Allergen immunotherapy for asthma. *Cochrane Database Syst Rev.* 2003; 4: CD001186. Evidence grade: Ia
16. Horst M, Hejjaoui A, Horst V, et al. Double-blind, placebo-controlled rush immunotherapy with a standardized *Alternaria* extract. *J Allergy Clin Immunol* 1990; 85: 460-72. Evidence grade: Ib
17. Bousquet J, Wenzel S, Holgate S et al. Predicting Response to omalizumab, and anti-IgE antibody, in patients with allergic asthma. *Chest* 2004;125:1378-1386. Evidence grade: Ib
18. Holgate S, Bousquet J, Wenzel S, et al. Efficacy of omalizumab, an anti-immunoglobulin E Antibody, in patients with allergy asthma at risk of serious asthma-related morbidity and mortality. *Curr Med Res Opin.* 2001;17(4):233-240. Evidence grade: Ia
19. Kikuchi Y, Okabe S, Tamura G, et al. Chemosensitivity and perception of dyspnea in patients with a history of near-fatal asthma. *N Engl J Med.* 1994; 330: 1329-34. Evidence grade: III
20. Janson S, Weiss K. A national survey of asthma knowledge and practices among specialists and primary care physicians. *J Asthma* 2004; 41: 343-8. Evidence grade: III
21. Freund DA, Stein J, Hurley R, Engel W, et al. The Kansas City asthma care project: specialty differences in the cost of treating asthma. *Ann Allergy* 1988; 60: 3-7. Evidence grade: III
22. Diette B, Skinner EA, Nguyen TT, et al. Comparison of quality of care by specialist and generalist physicians as usual source of asthma care for children. *Pediatrics* 2001; 108: 432-7. Evidence grade: III
23. Flores G, Snowden-Bridon C, Torres S, et al. Urban minority children with asthma: Substantial morbidity, compromised quality and access to specialists, and the importance of poverty and specialty care. *J Asthma* 2009;46:392-98. Evidence grade: III
24. Backer V, Nepper-Christensen S, Nolte H. Quality of care in patients with asthma and rhinitis treated by respiratory specialists and primary care physicians: a 3-year randomized and prospective follow-up study. *Ann Allergy Asthma Immunol* 2006;97:490-96. Evidence grade Ib