

tional QOL. It may be difficult to determine where the process begins in an individual child, but it may well result in a vicious cycle. The clinician should utilize not only appropriate medications for treatment of asthma but also asthma education and psychological assessment and referrals when indicated.

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ASTHMA DEATHS DURING SPORTS: REPORT OF A 7-YEAR EXPERIENCE

Becker JM, Rogers J, Rossini G, Mirchandani H, D'Alonzo GE Jr. *J Allergy Clin Immunol*. 2004;113:264–267

Purpose of the Study. To characterize fatal asthma that occurs while participating in sports activities.

Study Population. Potential subjects with asthma who died while participating in sports activities from 1993–2000 were identified by using a nationwide information service that reviews ~10 000 newspapers.

Methods. For each potential qualifying subject, autopsy results and family interviews were sought. To be included in the study, the subject had to be participating in physical activity at the time of asthma-symptom onset and appear well beforehand, and the medical examiner had to have concluded that the subject died of asthma.

Results. There were 263 potential asthma-related deaths identified, but only 61 met the criteria. Of these, 81% were subjects <21 years of age, and only 3% were >31 years of age. Sixty-nine percent of the subjects were male; 91% had a known history of asthma. There were 35 competitive and 26 recreational athletes. Only 51% of competitive athletes had their fatal event during participation in their organized sport, with 78% of these occurring during practice situations and the rest during active competition. Basketball was the most common activity at time of death (21%) in both competitive and recreational groups, compared with track/running (11%), gym class (10%), football and recreational play (each 8%), and other (42%). Only 5% of the subjects had been using asthma-controller therapy, although the medication status of 18% of the subjects could not be determined. No mention was made of the use of an inhaled β -agonist before exercise.

Conclusions. Sudden fatal asthma exacerbations occur in both competitive and recreational athletes and can be precipitated by sporting activity. Subjects who had fatal asthma attacks during exercise were usually white males between 10 and 20 years of age. Few had evidence of histories of persistent asthma, based on medication use. Extra care is needed to identify the athlete with asthma and ensure that such individuals receive proper evaluation, treatment, and monitoring. If asthma were reportable as a cause of death, a better understanding of asthma fatality during exercise might follow.

Reviewers' Comments. One unsettling question is why the incidence of fatal asthma with exercise is heavily weighted toward those individuals with presumed mild intermittent disease. Granted, there are more people with mild intermittent asthma than any other severity class, and these individuals are more likely to participate in aerobic exercise than their peers with more severe disease. However, it is hard to accept that these persons could suddenly evolve such profound airway obstruction. Do these persons have suboptimal perception of airway obstruction chronically or during times of increased cardiopulmonary demand? Are they driven to "tough it out" even with recreational activity? Although the answers to some of these questions might be "yes," it is more likely that these

ill-fated young people had more asthma at rest than had met the eye or the ear of the patient, family, and physician. It is not uncommon to see significant airway obstruction in an adolescent with few asthma symptoms. Such individuals might be spared much of their exercise risk if spirometry were part of their asthma evaluation and monitoring. Finally, should we lower the bar for the introduction of asthma-controller therapy?

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A PILOT SURVEY OF β_2 -AGONIST INHALER AVAILABILITY FOR CHILDREN WITH ASTHMA DURING ORGANIZED SPORTING EVENTS

Cardona I, D'Alonzo GE Jr, Becker J. *Ann Allergy Asthma Immunol*. 2004;92:340–343

Purpose of the Study. Nearly 90% of asthmatic patients experience exercise-induced bronchospasm (EIB). This study investigated the level of preparedness for EIB in suburban children involved in recreational sports.

Study Population. Five hundred seventy-nine children ≤ 12 old who were enrolled in a community sports league in Pennsylvania were studied. Seventy-four percent were male, and 96% were white. Four hundred sixty-four children (80%) played soccer, and 115 (20%) played baseball.

Methods. A 3-question survey was administered during a face-to-face interview with the parent or caretaker of the child.

Results. Of the 579 parents/caretakers, 80 (14%; 63 for soccer and 17 for baseball) reported a history of physician-diagnosed asthma for their child. Of the soccer players, 16 (25%) had their inhalers immediately available, and of the baseball players, 2 (12%) had their inhalers immediately available, giving a total of 18 (22%) children having inhalers available.

Conclusions. More than 75% of children with asthma who participated in organized sports were unprepared for a potential episode of EIB.

Reviewer's Comments. This was a small pilot study, but it demonstrates that children with asthma who participate in organized sports may be unprepared for a possible asthma exacerbation. It is unfortunate that this study did not go further and explore asthma severity or the reasons why the families did not have a short-acting, inhaled β_2 -agonist available. I presume that, in this primarily middle-class/upper-middle-class community, there were no financial barriers to obtaining the medication or medical care. As physicians we need to emphasize to patients that exercise is a primary trigger of asthma and that patients should have their inhalers available when they participate in sporting events.

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INFLUENZA VACCINATION IN CHILDREN WITH ASTHMA: RANDOMIZED DOUBLE-BLIND PLACEBO-CONTROLLED TRIAL

Bueving HJ, Bernsen RM, de Jongste JC, et al. *Am J Respir Crit Care Med*. 2004;169:488–493

Purpose of the Study. To investigate if influenza vaccination in children with asthma prevents asthma exacerbations provoked by influenza infection

Asthma Deaths During Sports: Report of a 7-Year Experience

Timothy Andrews and James R. Banks

Pediatrics 2005;116;562

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