With both of these approaches, patient selection is important. Unfortunately, there is no study directly comparing the results when the procedure is performed under local as opposed to general anesthesia. This would require a phase three study, which is probably not possible. Nevertheless, we agree that this procedure can be performed in certain patients while they are under local anesthesia; however, in selected patients general anesthesia is required.

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REFERENCES

Exercise-Induced Bronchoconstriction in Healthy Athletes

To the Editor:

In the article “Exercised-Induced Asthma in Figure Skaters” by Mannix et al. (February 1996),1 the authors state that similar studies have not been published. Two years ago our group published a paper on the bronchoconstrictor effect of strenuous exercise at low temperatures in healthy athletes (members of the Dutch speed skating team) participating in world championships and Olympic games.2 Our investigation was focused on the exercise-induced bronchoconstriction occurring after a 2-min 1,500-m race. Usually the athletes complained of subjective variants of exercise-induced bronchoconstriction such as coughing (“the 1,500-m cough”), chest tightness, and excessive mucus production. Peak expiratory flow (PEF) measurements were performed at 3, 10, 20, 60, 90, and 120 min after the race. A significant decrease in PEF was found at 10, 90, and 120 min when measured in Calgary (Canada) and at 90 and 120 min when measured in The Hague (Netherlands). This decrease in PEF could not be explained by daily variations measured in resting conditions (Fig 1). In contradiction with the study of Mannix et al, the decline in PEF was gradual.

A possible explanation for our results could be the strong drying influence of cold air and the accompanying temperature loss in the airways, stimulating vagal nerve activity, not only causing the cough and mucus production but also a gradually increasing minor bronchoconstriction.

Usually in exercise-induced bronchoconstriction the largest fall in FEV1 occurs between 7 and 15 min postexercise,2 immediately followed by a rise in FEV1. This last increase in FEV1, however, is not present in the study of Mannix et al. This suggests in their asthmatic athletes at least some of the same mechanism as we have postulated. It would be of interest to know whether these athletes also show a decrease in the histamine or methacholine PC20, which are other markers of bronchial hyperreactivity.

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REFERENCES

Myasthenia Gravis and Upper Airway Dysfunction

To the Editor:

Putman and Wise (February 1996)3 recently described with detail one patient with myasthenia gravis and upper airway obstruction (UAO), and they reported abnormalities in the maximum flow-volume loop (MFVL) in another 7 of 12 patients. The authors concluded that UAO is much more common than previously recognized, and they recommended the performance of MFVL in these patients to evaluate their respiratory impairment. We wish to add another reason for performing the MFVL—its use as an objective diagnostic test for myasthenia gravis. As it is well established, the involvement of upper airway muscles in neuromuscular diseases (with loss of upper airway patency) can produce abnormalities of the MFVL in the form of UAO and/or flow oscillations, and this finding is more frequent in patients with bulbar symptoms.5,6 Recently, we studied one patient with reproducible flow

**Figure 1.** Mean PEF (percentage of baseline) for the adults, according to time of measurement, 3, 10, 20, 60, 90, and 120 min after finishing the race. Upper curve: The Hague (Δ). Lower curve: Calgary (○). Bars denote SEM. Significant changes with respect to baseline (*p<0.05) are indicated.