Mechanical Ventilation in Children

To the Editor:

I read with great interest the recent article by Black et al (Chest 1988; 93:333-35). They described hazardous effects of pressure support ventilation when cuffed artificial airways deflate unintentionally, and pressure support is maintained during inspiration and expiration. Through my work in pediatrics, I have encountered similar problems.

Most of our patients have uncuffed artificial airways. There may or may not be a leak around these tubes. Also, the leaks usually vary with the child's position. The normal childhood activity level makes complete control of these air leaks impossible.

We utilize pressure support via the Servo C ventilator (Siemens-Elema, Schaumburg, IL). In order to limit the deleterious effects of high CPAP levels when air leaks are present, we set the pressure support inspiratory time limit at "fairly sensitive." As you stated in the article, the inspiratory time limit on the Servo C is 80 percent of the cycle time set by the breath/minute dial. If a child is breathing with an average inspiratory time of 0.7 sec, we set the pressure support time limit at 0.8 sec. Generally, the child's pressure-supported breath will not be limited. This practice will, however, prevent maintaining unwanted CPAP if an air leak is present and the child is exhaling.

We have employed this method successfully over the past four years. Careful assessment of these patients during routine ventilator checks has allowed us to assure the preset inspiratory time limit is not set at a too sensitive level and the respiratory cycle terminated prematurely.

Ellen Becker, RRT, BS,
Department of Respiratory Care,
Core Faculty Pediatric Pulmonary Center,
University of Wisconsin Hospital and Clinics,
Madison

REFERENCES

How to Give up Smoking by Drinking Coffee

To the Editor:

Cigarette smoking is presently the single most important preventable environmental factor contributing to illness, disability, loss of productivity and death all over the world, and is the main cause of lung cancer and chronic obstructive pulmonary disease in both men and women. Giving up the habit is the only way to prevent the major health problems caused by smoking.

It has been shown that drinking decaffeinated coffee vs regular coffee leads to an increase in the number of cigarettes smoked by normal volunteers.1 In order to test the hypothesis that, when a smoker drinks a strong coffee with high caffeine content, the number of cigarettes smoked daily would decrease, we studied 30 adult voluntary smokers for four weeks, according to the Helsinki Declaration. They were allowed to smoke freely and were given—in a double-blind, randomized, placebo-controlled (decaffeinated coffee) study—three cups of coffee with high and low caffeine content for one week with a two-day wash-out period. Blood caffeine levels were measured weekly by HPLC2 hours after the informed coffee ingestion in order to evaluate compliance with the protocol.

It can be seen in Table 1 that there was a significant decrease (p<0.05, Student's t-test) in the number of total cigarettes smoked during the intake of the strong coffee. It seems that the smoker exchanges—at least in part—nicotine for caffeine, as he is looking for central nervous system stimulation, facilitation of memory and attention, prevention of sadness and depression (effects that both substances have).3,4 On the other side, coffee at this dosage seem remarkably safe during chronic consumption,5,6 at least compared to smoking. This data, however, could be greatly improved by doing thiocyanate and nicotine assays in smokers' blood. That was not done in the preliminary study as we wanted to test only the possible change on the number of cigarettes smoked, which is related to the development of lung cancer.7

Darcy Roberto Lima, M.D., Ph.D.; Roseane Maria Santos, B.Sc.; Amaro Manhaes Crespo Santos, B.Sc.; Cid Nascimento David, M.D., and Ceraldo de Noronha Andrade, M.D., Ph.D.;
Federal University of Rio de Janeiro, Clinical Pharmacology Institute, Rio de Janeiro, Brazil

Reprint requests: Prof Lima, Pneumology Institute, UFRJ, Rua Carlos Seidl, 813, Rio de Janeiro, RJ, Brazil 20931

REFERENCES
1 Kozlowski LT. Effects of caffeine consumption on nicotine consumption. Psychopharmacology 1976; 47:165-68

Role of HIV Infection in Alteration of Pulmonary Function in Intravenous Heroin Addicts

To the Editor:

Ben-Haim et al (Chest 1988; 94:656) describe an HIV-positive intravenous heroin addict presenting with fever, respiratory distress and diffuse miliary infiltrates on chest x-ray film due to talc granulomatosis. The authors suggest that such talc crystals should be regarded as a possible cause of pulmonary granulomatosis and should be considered in the differential diagnosis of pulmonary disease in heroin addicts suspected to have AIDS. On the other hand, intravenous heroin addicts (IHA) frequently present normal chest x-ray films and no respiratory symptoms, but about 40 percent show alterations of pulmonary function almost exclusively represented by a reduction in the carbon monoxide-diffusing capacity (Dco).1

IHA constitute a population at risk for HIV infection; in Italy, they make up about 60 to 70 percent of AIDS cases. The role of