antitussive or expectorant activity. Cough can also be reported in terms of its intensity, loudness, duration, pressure, flow and volume relationships, cough "resistances" can be calculated to reflect the inertial, elastic and flow-resistive components of respiration, and changes in breathing mechanics in the upper and lower airways may be recorded. 1

Under the same sponsorship as the Charlottesville group, 2 we studied the behavior of the maximum expiratory flow-volume curve, closing volume information, the slope of the alveolar plateau (phase III) and the response to low-density gas breathing for 19 patients with chronic bronchitis given either guaifenesin (2,400 mg daily), or matched placebo, by double-blind random assignment for seven days following a one-week placebo washout. Clinical status was assessed by patient scoring of cough attributes and chest discomfort, and by observer notation of physical signs. Reliance upon air-breathing, MEFV curves or closing volume data would have missed treatment differences. Significant decreases in delta N2% (p = 0.05) and the volume of isoflow (p = 0.01) for the guaifenesin group, compared with placebo, implied small airways activity for the former consistent with the expected locus of activity of an expectorant. Guaifenesin was also statistically superior in improving cough characteristics and lessening chest discomfort, wheeze and breathlessness, indicating favorable objective and subjective clinical concomitants of the physiologic changes.

Admittedly, we gave larger total doses than did Kuhn et al (28 doses over seven days compared with five doses over 30 hours) to patients with stable chronic cough. However, similar evidence of peripheral airways dysfunction occurs in nonsmokers with uncomplicated common colds 3-4 and are susceptible to serial measurement. Changes in cough frequency would appear more valuable for studies of cough suppressants.

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2 Files of AH Robins Company, Richmond, Va.
4 Cohen BM, Dressler WE. Acute aromatics inhalation modifies the airways effects of the common cold. Respiration 1982; 43:285-93

To the Editor:

Surprisingly, neither the editorial on cough (Chest 1982, 82:662), nor the article on guaifenesin by Kuhn et al (Chest 1982, 82:713), discussed the important question of dose-ranging in the evaluation of an antitussive/expectorant.

How do we know that the total dose of 2,400 mg of guaifenesin (I assume that this was divided in 6 doses of 400 mg each, given every six hours over the 30-hour period of the study) was enough? It seems possible that twice this dose, if tolerated, might have produced a greater and clearly evident antitussive effect, especially if compared to no treatment at all, rather than to the active drug quinine 2.5 mg/5 ml in 95% (?) alcohol, as done by the University of Virginia team.

It is tempting to conclude that it makes more "sense" to pay less attention to technologic sophistication and concentrate more on the logical design and interpretation of clinical studies.

Constantine J. Fallers, M.D.
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To the Editor:

Dr. Fallers raises the question of whether increasing the dose of guaifenesin might produce a more pronounced effect in reducing cough associated with acute respiratory illnesses. In the study which we reported, the subjects received 30 mg of solution containing 400 mg of guaifenesin every six hours for a total of six doses. This produced a total dose of 2,400 mg of guaifenesin over a 30-hour period. This dose is at the high range of that recommended by the manufacturer. The usual dosage is 200 mg of guaifenesin every four hours not to exceed a total of 1,200 mg in a 24-hour period. Thus, the dose utilized in our study was based on the upper limit of the recommended dosage in current use.

The suggestion by Dr. Fallers that guaifenesin be compared to no treatment seems impractical to us. The reason the vehicle with added quinine was utilized was so that the treatment could be double-blind. We would not feel comfortable with any evaluation in which guaifenesin was compared to no treatment.

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Correct Height Measurement for Pulmonary Function Testing Parameters

To the Editor:

A recent discrepancy in correct height measurement among several physician-examiners regarding a claimant for occupational lung disease benefits led us to review the recent pulmonary function testing literature regarding the appropriate procedure for measuring a patient's "correct" height. Although we never seriously doubted the wisdom of using stocking feet height or barefeet height to measure the "correct" height for predicted pulmonary function parameters, in searching the literature we were able to find only two recent references which address this question and specifically state that the correct height predictions should use "stocking feet" height. 5-6 There is also a paucity of evidence stating that the patient's height should be measured in his barefeet or stocking feet in the older pulmonary function testing literature. We think it is important to reiterate the fact that the patient's accurate height should be measured with shoes off, especially in this day of varying heel sizes in both men's and women's shoes. Essentially the correct "height should be measured with the subject standing in his or her stocking feet." Sometimes facts which seem so evident are not clearly stated in the medical literature.

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