

Pulmonary Disease Reviews

Volume 6

Edited by

Roger C. Bone, M.D.

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Professor and Chairman

Department of Medicine

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Chicago, Illinois

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Preface

The purpose of Pulmonary Disease Reviews is to provide access to the latest advances that affect clinicians and academicians concerned with pulmonary disease and critical care medicine. Expanded sections on economic aspects of pulmonary and critical care medicine and pulmonary aspects of systemic diseases are included in this volume to illustrate recent trends. The individual chapter authors are without exception experts in the fields they review. Each is active in clinical or basic investigation of his or her subject. Their chore is to highlight the best, most provocative, or most quoted literature pertaining to their subject in the preceding year. They abstract the article, making certain that the original data are presented in enough depth to allow the reader to decide independently on the conclusions reached by the article author or chapter author. The chapter author then speculates on the clinical relevance and new research ideas that are raised by the reviewed papers. It is hoped that each chapter will serve as a "journal club" an expert in the area being discussed in which conducts the session.

Pulmonary disease is a challenging and exciting but demanding subspecialty that requires the complete internist to provide optimal medical care. This volume attempts to make the difficult task of keeping current a little easier.

I would like to thank Deborah Schulz for her typing and editorial assistance in the completion of volume 6 of this text.

Roger C. Bone, M.D.

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History and Physical Exam

Robert G. Loudon

Concern about health care costs has led many fiscal intermediaries to take practical steps towards cost containment. The most important include reimbursement by type of illness rather than by item of service. When income depends on the number of diagnostic tests performed or of therapeutic maneuvers undertaken, liberality is rewarded. When total reimbursement per case is finite, diagnostic and therapeutic approaches are likely to be chosen with greater care, and to be scrutinized and justified from a different viewpoint.

The starting point for every medical encounter involves history-taking and physical examination. The more that the physician learns from these, the more efficient, direct, economical, and effective should be the subsequent diagnostic and therapeutic strategy. Perhaps the diagnosis related groups (DRG) will achieve the desirable side-effect of concentrating attention on the history and physical examination, and choosing diagnostic tests with care and discrimination.

History-taking is among the most important of the medical arts, but not one which is easy to assess. Two of the papers reviewed, by Dr. Woolliscroft and associates and by Dr. Mumford and associates, described methods which they have used to evaluate interviewing skills in medical students. This is not an easy task. These two articles are of interest not only in terms of the findings reported, but also as indicating rather different outlooks on the subject. Both articles concern the history as a whole; neither is concentrating on respiratory symptoms, but the findings could reasonably be expected to apply to patients in general..

The measurement of dyspnea requires the application of a yardstick to a sensation, another difficult task. Mahler and his associates describe an approach which allows different observers to obtain comparable information. Their proposed indexes standardize the methods used in eliciting details about dyspnea and its severity. We may hope to see them more widely applied. The administration of a questionnaire is no substitute for skillful history-taking, but agreement

on degrees of severity of a symptom is helpful not only in epidemiological situations but also in everyday clinical practice. Pratter and associates, on the other hand, add the subtitle "An Unreliable Method" to the title of their article "Diagnosis of Bronchial Asthma by Clinical Evaluation". They prefer challenge testing and measurement of airway reactivity to reliance on historical data provided by the patient. Their arguments certainly have merit in the evaluation of patients regarded as difficult diagnostic problems, but this reviewer is inclined to regard history and physical examination as the bases for the diagnosis of asthma in most patients, and only occasionally misleading. The "asthma" need not be made congruent with the phrase "reactive airways"; imprecision is not a fault in a word applied to a set of disorders pleomorphic in their manifestations.

We close with two articles describing careful observations on lung sounds. Murphy and his colleagues report further observations on the value of auscultatory findings in the early detection of asbestosis, and Krumpke and associates discuss the evaluation of bronchial air leaks by auscultation and phonopneumography. Our understanding of the sounds that we hear with our stethoscopes, and our appreciation of their value, are increased by these two useful reports.

EVALUATING THE MEDICAL HISTORY: OBSERVATION VERSUS WRITE-UP REVIEW

J.O. Woolliscroft, J.G. Calhoun, C. Beauchamp, F.M. Wolf, and B.R. Maxim (University of Michigan Medical School, Ann Arbor, Michigan)

J of Med Educ 59:20-23, 1984

The ability to develop a medical history data base relevant to the total care of a patient is a requisite skill for clinical problem-solving. Assessment of this skill by faculty members in medical students has been based on direct observation of the student-patient encounter as well as on evaluation of the student's written patient history. In the study reported here, both methods were compared by the authors for the same student-patient interview. Preceptor ratings of the students' data elicitation skills were correlated with their ratings of the students' interview-process skills and the time spent by the preceptor observing the interview. A criterion-based, checklist scoring of the student's write-up was not correlated with preceptor ratings. In this study, the authors suggest that a criterion-based evaluation of the student's patient write-up is a less faculty-intensive and more reliable method of evaluating medical student data-collection skills than direct observation of the student-patient encounter.

PERFORMANCE-BASED EVALUATION OF MEDICAL STUDENTS' INTERVIEWING SKILLS

E. Mumford, D. Anderson, T. Cuerdo, and J. Scully (University of Colorado School of Medicine, Denver, Colorado)

J of Med Educ 59:134-135, 1984

The findings suggest that skillful interviewing incorporating psychosocial problems does not necessarily develop without specific

training. With training, the skills can be enhanced.

Assessment of the complex level of abilities and knowledge necessary for good medical practice may require more than one objective evaluation method. National tests to assess fund of knowledge are highly developed and monitored with sophisticated procedures. In contrast, faculty ratings of clinical skills, though widely used, are often subjective and vulnerable to extraneous influence.

Raters trained to attend to individual aspects of interviewing and to avoid giving general impressions attain high degrees of inter-rater reliability.

A lack of correlation between process scores or content scores and scores on tests designed to assess fund of knowledge—Medical College Admission Test, premedical grade-point average, and the Part I examination of the National Board of Medical Examiners—suggests that if interviewing skill is important for clinicians, then it needs to be evaluated separately and objectively.

COMMENTS

Skill in history-taking is an important asset for a physician. The process provides him with items of information and insights into patient characteristics that are the basis of a management plan. Their accuracy may determine the success of that plan. At the same time the interview provides the patient with insights into the physician's characteristics, and these insights may also influence the success of the plan—for example, by leading to its acceptance or rejection.

These two articles report studies of methods for evaluating the interviewing skills of medical students, as they take a medical history. They provide an interesting contrast. Woolliscroft and associates compared the assessment by preceptor observation with the assessment by evaluating the student write-up. The preceptors observing interviews of hospital patients by 190 students rated data-elicitation ability on a scale of 1-4, and skill and sensitivity of interviewing techniques on another scale of 1-4. The duration of the period of observation was also noted. The students' written medical histories were separately evaluated using an 84-item criterion-based checklist, designed to reflect attention to areas of importance for the care of the patient. Consistency among preceptors was very high for the content scale and high for the process scale. A high level of agreement was also seen among raters of the written record. But the content scale rating by preceptors did not correlate with the written record rating; neither, less surprisingly, did the process scale. The two preceptor scales correlated with one another, and each also correlated with the duration of observation. The authors concluded that the criterion-based evaluation of the written record is not only less faculty-intensive (which is readily acceptable) but may also be a more reliable method of evaluating medical student data-collection skills. The latter suggestion may be less readily accepted by some readers, but several good arguments are adduced in its support.

Mumford and associates ask a similar question—how best to evaluate medical students' interviewing skills—but they have a

different emphasis, their study was differently organized, and they came to different conclusions. They used simulated patients, videotaped the interviews, and trained raters to score the interviews for process and for content. Students at four medical schools were studied. The scores were internally consistent, and process scores correlated with content scores. "Recognized experts" had significantly better scores than students for both process and content. Process scores correlated with the assessment of the interviewer as a desirable physician by the simulated patient. The mean scores of students were higher in medical schools with more hours devoted to human behavior courses. This group concludes that interviewing skills can be enhanced by training, that tests of knowledge are highly developed but tests of clinical skills are not, and that if interviewing skills are important they need to be evaluated separately and objectively.

Both groups judge separately the interviewing process and the content of information obtained. One group is more concerned with the latter, and the other, perhaps, with the former. One group is medically oriented and the other is psychiatrically oriented. Presumably this explains the differences in approach, results, and conclusions. What you do depends on what you want.

THE MEASUREMENT OF DYSPNEA

D.A. Mahler, D.H. Weinberg, C.K. Wells, and A.R. Feinstein (Yale University School of Medicine, New Haven; and Veterans Administration Medical Center, West Haven)
Chest 85:751-758, 1984

To improve the clinical measurement of dyspnea, we developed a baseline dyspnea index that rated the severity of dyspnea at a single state and a transition dyspnea index that denoted changes from that baseline. The scores in both indexes depend on ratings for three different categories: functional impairment; magnitude of task, and magnitude of effort. At the baseline state, dyspnea was rated in five grades from 0 (severe) to 4 (unimpaired) for each category. The ratings for each of the three categories were added to form a baseline focal score (range, 0-12). At the transition period, changes in dyspnea were rated by seven grades, ranging from -3 (major deterioration), to +3 (major improvement). The ratings for each of the three categories were added to form a transition focal score (range, -9 to +9). In 38 patients tested with respiratory disease, interobserver agreement was highly satisfactory for both indexes. The baseline focal score had the highest correlation ($r = 0.60$; $P < 0.001$) with the 12-minute walking distance (12 MW), while significant, but lower, correlations existed for lung function (Figure 1). For the transition focal score, there was a significant correlation only with the 12 MW ($r = 0.33$; $p = 0.04$) (Figure 2). These results indicate that dyspnea can receive a direct clinical rating that provides important information not disclosed by customary physiologic tests.