The present recommendations of the Task Force stem from a growing awareness of the magnitude of pulmonary disease over the entire pediatric age range and the concern that there is an insufficient number of programs capable of providing the broad training in acute and chronic lung disease required to meet the current challenge in the United States. The magnitude of pediatric lung disease has been documented by the preceding report of the Task Force on Scope and Professional Manpower Needs in Pediatric Respiratory Disease (p. 254). The seriousness of the shortage of pediatric chest physicians has already been suggested by a recent Pulmonary Disease Manpower Survey. This Task Force therefore places the highest priority on the training of individuals with critical attitudes who will be capable of assuming the roles of pediatric pulmonary clinicians, teachers, and scholars and who will be able to train others in the very near future. Thus, we firmly believe that we should focus on the training of individuals who not only can provide expert care but who will be able to teach medical students, house officers, primary care physicians, and allied health professionals and who will be able to perform and guide research in pediatric lung disease.

We believe training programs should emphasize both clinical competence and the performance and evaluation of research. Because new information in the area of pediatric lung diseases is developing so rapidly and because the most promising research is being carried out along interdisciplinary lines, no rigid curriculum or schedule is desirable. Each institution will need to draw on its own strengths in a variety of fields outside of pediatrics, including physiology, pharmacology, immunology, biochemistry, medicine, anesthesia, surgery, radiology, pathology, and public health. It may not be possible to cover all the areas in depth. Rather, the aim should be to provide an intensive laboratory experience in one of these areas so that the trainee can develop into a disciplined and critical thinker. Because the number of pediatric pulmonary research laboratories is limited, consideration should also be given to seeking an outstanding laboratory experience in other clinical or basic science departments. When relevant to the nature of the research, collaboration between individuals working in different disciplines is to be encouraged.

The clinical training should include experience with acute and chronic lung disease over the entire pediatric age range. Specifically, the training should include the following:

1. Pediatric intensive care, with input from anesthesiology and cardiology and with emphasis on (a) cardiorespiratory resuscitation and monitoring in infants and children; (b) tracheal intubation; (c) constant distending airway pressure; (d) mechanical ventilation and use of muscle relaxants; (e) management of acute and chronic respiratory failure and treatment of cor pulmonale;
2. Neonatal respiratory disease, including the respiratory distress syndrome, meconium aspiration, and congenital anomalies of the lungs and diaphragm;
3. Infectious disease of the lungs, including epiglottitis, acute laryngotracheobronchitis, bronchiolitis, pneumonia, tuberculosis, and other granulomatous disease of the lungs;
4. Hypersensitivity lung disease, including asthma;
5. Cystic fibrosis;
6. Pulmonary reaction to chemical injury and trauma, including foreign bodies;
7. Radiologic evaluation of lung disease, including interpretation of chest roentgenograms, bronchograms, and lung scans;
8. Special procedures, such as needle aspiration of the pleura and lung, and bronchoscopy;
9. Chest physical therapy and inhalation therapy with emphasis on the scientific bases for these procedures;
10. Pulmonary pathology, including normal and abnormal growth and development of the lung;
11. Health education, including prevention of lung disease; and
disease as they affect the child and his family.

The clinical training must also include experience with modern tests of (1) lung function and an understanding of the fundamental principles underlying these tests, and (2) host defense mechanisms of the lung. While classical pulmonary physiology should remain a fundamental part of training programs, the development of expertise in tests of nonrespiratory functions of the lung is to be encouraged. Finally, training programs should include a course in biostatistics.

Requirements for entry into pediatric pulmonary training programs should consist of at least two years of general pediatric experience following graduation from medical school. In order to provide both clinical and research experience, training programs should require two years as a minimum and recognize that for most trainees a third year will be necessary in order to complete investigative studies and to round out clinical experience. While some training programs may find it best to proceed along the classical order of providing clinical training first and investigative experience second, we urge some flexibility in this regard. In those programs in which trainees can choose to join one of a number of ongoing research projects and in the case of those trainees who have already identified an area of special interest, there may be additional benefits to be derived from starting with a research experience. Moreover, many projects will require more than one year for completion. While the initiation of such projects will require full-time participation, completion may be accomplished during unscheduled portions of the second or third years.

We recognize that it may not be possible for any individual to function as an expert in all of the areas we have outlined on completion of training. The area of concentration should ideally be determined by the nature of the trainees’ interests, modified by current and future needs of the field. It should not be limited by the structure of the training program.

Because we place equal weight on clinical and laboratory or investigative training and because we believe each is a serious undertaking to be performed full time, at least at the start, it may be desirable for training programs to have more than one fellow.

Although it is unlikely that most current pediatric pulmonary divisions can provide training in all areas, the resources for the broad training outlined can be provided at many university hospital settings by cooperation between several divisions within pediatrics and between several departments. Pediatric departments without broadly based pulmonary divisions should be encouraged to develop them.

**Task Force To Establish Guidelines for Pediatric Pulmonary Training Section on Diseases of the Chest**

Robert B. Mellins, M.D., Chairman; Victor Chernick, M.D.; Carl F. Doershuk, M.D.; Daniel C. Shannon, M.D.; William W. Waring, M.D.

Consultants: Mary Ellen Avery, M.D.; A. Charles Bryan, M.D.; Careth M. Creen, M.D.; George Polgar, M.D.; Alexander Spock, M.D.; Denise J. Strieder, M.D.

**Reference**


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