In discussing the subject of pulmonary tuberculosis, we are aware of the many problems that confront us. There are three chronic diseases, namely: Tuberculosis, Syphilis and Cancer, which have kept the medical world in a state of confusion since their inception. I find it quite a task to even attempt to describe some of the phases of tuberculosis alone, yet, if you will bear with me, I shall venture a few points which might help make our general practitioners more "Tuberculosis Minded," thus bringing about an enthusiastic desire to make an early diagnosis and establish more stable methods of treatment for unfortunates who contract this disease.

Tuberculosis kills more people between the ages of fifteen and forty-five than any other disease. At this period of life, tuberculosis is still the Captain of The Men of Death, at a time when life should be at its best and its usefulness the greatest. This condition has existed for several generations and we ask the question, "Who is to be blamed?" and "What are we going to do about it?" If I am permitted to express my opinion, I would frankly say that it has been the fault of the general practitioner, the family physician, who has practically ignored this one disease. We are just beginning to make up our minds to do something about it. Had it not been for the few specialists in this line, the pride of our profession would be entirely lost. It is this neglect of the family physician in making the diagnosis and treatment of many of the more serious infections which has lead to the cry for State Medicine.

We love to hear our profession lauded and heralded as the greatest boon to mankind and that we are living the lives of martyrs for the cause of human suffering, and yet how many of us realize that we are constantly betraying this great trust. There is no reason why every registered physician should not be able to make a diagnosis of the three most common diseases, namely: Tuberculosis, Syphilis and Cancer, and when the diagnosis is made refer those cases which are not in his line of treatment to the men who do that specialty. It is the duty of every physician to see that the sick public gets the proper medical treatment. In other words, may I not say that we as physicians, in the eyes of the laity, are held in trust to be ready to make a diagnosis and administer care and treatment of all diseases allied to our profession, if not directly, then by the proper consultation. No physician should have too much pride to consult with his contemporaries in the interest of his patients in making the proper diagnosis and instituting the correct treatment. When I speak of consultation, I also have in mind the use of your hospital connections and Public Health Service which is offered in some degree by most every city of any size which has the proper interest in the public welfare. Many of the States and larger cities offer laboratory and x-ray service to physicians for diagnostic purposes, especially in Tuberculosis. But it is surprising to know how many of our physicians do not avail themselves of this opportunity. Now, since we have allowed tuberculosis to become a public health problem, let us cooperate with this department by assisting in making an early diagnosis and reporting cases promptly so that they can receive the quickest and most adequate treatment. You will find that your public health nurse will be of great assistance here. I have known many physicians to find fault with their field nurses because of their alertness. Diagnosis of cases has been made by them many times before the physician because of their careful scrutiny of the family history. In such cases, I have always been grateful for any information I could get from the nurse. Because of her alertness to their case histories I have been saved many embarrassing situations. The only fault I could find is that there are not more public health nurses.

There have been so many papers and broadcasting lectures on the subject of education of the public concerning this disease that I don't feel that I should utilize this little space in discussing the housing problem and the
education of the people in and out of school, but I would like to add that the promotion of these movements is also up to the private physician in his respective community. If the politics of medicine can be injected into public health work in the proper therapeutic measures so that the physician has the power of speech in the interest of his profession for the good of the people, then he is getting to the place where the best interests of all are enjoyed equally.

Now that we have spoken of tuberculosis in a general way, may I not speak more specifically on this subject? I feel that the best way to start the subject of this discussion relative to the infectiousness of this disease is to state emphatically that tuberculosis is a communicable and a contagious disease. The tubercle bacillus is the etiological factor and it is not an hereditary disease. So when it is contracted, it is by direct contact with persons who have this malady in the communicable form.

We have two kinds of tuberculosis caused by the same tubercle bacillus. One is known as the Primary or Childhood type, or the first infection, and the second is known as the re-infection or adult type. The Primary Tuberculous complex may be active or inactive depending upon the massiveness of the dose of infection, or the resistance of the patient respectively. Therefore, a positive tuberculin reaction in a child means that the child has become infected but may not have the disease in its active form. If active, it will be manifested by x-ray findings, constitutional symptoms, and often by a low sedimentation rate. I would like to add here that an x-ray is almost absolutely necessary in making a diagnosis of childhood tuberculosis because of the paucity of physical findings. May I also add, that it is my belief that most of our tuberculosis has its inception in childhood. It depends upon the dose of the infection whether the child becomes ill in childhood, or later in life, or at all. If the dose is small, one may harbor the bacilli all one's life without any active manifestations. On the other hand, if resistance is lowered by some intercurrent disease or some outside stress such as auto accident, childbearing, poor feeding, worry or hazardous occupation, etc., the capsule or capsules harboring the bacilli break down, the bacilli escape, overpower the body cells and set up an active process in the lungs. Thus we have the adult type of tuberculosis, which is known as the endogenous type or reinfection form.

The exogenous infection which may come later in life superimposed upon the primary infection is a less frequent occurrence, although this type has caused considerable attention and discussion by such able pathologists and scientists as Opie, Sweany, Lang, Ranke, and others working in this field of investigation. The contention being that the primary infection offers an allergic, fertile soil for a further exogenous implantation which in turn sets up the adult type of pulmonary tuberculosis.

May I say a few words about diagnosis of pulmonary tuberculosis before closing this subject? Without any reservation, I feel that every physician should have a fluoroscope. The x-ray is useful in making a diagnosis of other diseases and injuries than tuberculosis. The fascinating interest in making a diagnosis of pulmonary tuberculosis is its differentiation from other diseases of the chest in which the x-ray is indispensible. Many active cases of pulmonary tuberculosis may have no physical signs nor even symptoms way into the moderately advanced stage, and yet the x-ray will reveal progressive lesions with beginning cavitation.

Pleurisy with effusion so often overlooked on physical examination is beautifully revealed by fluoroscopy or x-ray. All pleurisies with effusion should be treated as tuberculosis because practically 100 per cent are. Even when the fluid is negative for tuberculosis and the guinea pig is negative after inoculation with the fluid, we see these same cases develop active pulmonary tuberculosis months after the fluid is absorbed; this type of course would not include traumatic pleurisy and post pneumonic empyema. Of course, in the absence of x-ray, don't fail to do a puncture for diagnostic purpose. In the home, this might be the only means of making a diagnosis of fluid in the pleural cavity.

Did it ever occur to you that tuberculosis is one of the most easily curable of all chronic diseases? Did you not know that 90 per cent of cases begin as unilateral lesions free of
adhesions and ammendable to cure within a brief period of time with artificial pneumothorax? Well this is true. Why we emphasize the early diagnosis of pulmonary tuberculosis is to avoid the late mutilating surgical procedures as in the case of thorocoplasty. Although a few rare cases can be cited where thorocoplasty might take the preference to pneumothorax in early cases. But since we are not discussing surgery, we shall leave this subject for a later paper.

In conclusion, I would like to express the desire that the time will soon come when every tuberculosis patient may have the advantage of sanatorium treatment. It has always occurred to me that patients without the advantage of a well managed sanatorium and its teaching have lost their best opportunity to make a complete recovery. There are so many things that a patient must know in order to recover from his illness and maintain his health after recovery. Unless a patient is schooled in the finer points of his cure taking, he makes a complete failure in spite of surgical aid. Fresh air, good food, rest, and self discipline, are just as essential as the pneumothorax, phrenic nerve block or thorocoplasty. Half treatment is worse than none at all in most cases. Doctors must know not only diagnosis of tuberculosis, but treatment as well so that if a sanatorium is not available, discipline must be established in the home. All active cases of pulmonary tuberculosis must be isolated from those who are free of the disease if we wish to keep down the morbidity rate and check its spread. Prevention will be the future treatment of tuberculosis.

Finally: Remember to always take a careful history of every case, because each disease has its own specific history which gives the cue to the diagnosis. A careful physical examination with the patient stripped to the waist should be routine. Sputum examination should be repeated again and again, and remember that the x-ray aids you in your earliest diagnosis. Also remember that pneumothorax can not be given successfully or scientifically without the use of the fluoroscope, always checking before and after each treatment.

Physicians practicing in small communities have excellent opportunities in establishing themselves as pioneers in developing tuberculosis clinics, educating the school children, mothers and fathers of the township, interesting the ministers in preaching the Gospel of Health along with the Salvation of the Soul. In short, let your community become Tuberculosis Conscious!