salicylates when there was severe carditis was this: If the drug was specific it needed pushing, and he had found then his results with these delicate children not good and the specificity doubtful. For arthritic pains all knew its value. He hoped some of them would try tolysin, because he thought it more satisfactory in these cases, and it was worth investigating. Many old friends had joined in this discussion, and he thought that there were few points in a short reply which he need dwell upon. A problem which drew into its meshes hospital and general physicians, school medical officers and medical officers of health, must necessarily lead to differences in outlook, a point he had dwelt upon in the Bradshaw Lecture last year. When these arose the guiding signal was a very clear one, and this was the memory of young and charming children crippled, before 12 years of age, by this grave disease.

Dr. ASKINS, replying, remarked that there appeared to be some fear that the institution of cardiac clinics would

be taking work away from other agencies. This, however, could scarcely be the case, because, so far as elementary school children were concerned, practically nothing was being done at present for those suffering from early cardiac disease, except in a few areas; and under present conditions there was little more that could be done. An essential factor in dealing with this disease was some organized scheme whereby cases would be followed up and kept under skilled observation. Experience had proved that many such children were carrying on an ordinary life during a stage of their illness at which this was of great harm to them. On the other hand, the need for skilled observation was further shown by numerous instances of children who presented a murmur which was not due to heart disease, and who had been wrongly placed under restrictions on the latter supposition. As already stated, cardiac clinics could be established at any hospital or school clinic, or wherever was most convenient, provided the above essentials were available.

THE DIAGNOSIS OF LUNG CONDITIONS.*

BY

THOMAS M. ALLISON, M.D.,

MAJOR R.A.M.C., T.F.(RET.),

LATE VISITING PHYSICIAN TO THE SANATORIUM FOR TUBERCULOUS CHILDREN, STANNINGTON.

I NEED not stress the importance of lung diseases. The deaths, disablement, and debility which follow on lung conditions speak for themselves, and render their diagnosis and treatment of great importance.

THE BREATH SOUNDS.

The breath sounds of the child are, in my opinion, the bed-rock of pulmonary diagnosis. The books describe them as puerile—a definition which conveys little—or they say that they are a form of vesicular breathing. In my opinion the normal breath sounds of the child are not vesicular but laryngeal, and they are therefore harsh in character. They consist of a long harsh inspiration, and a short harsh expiratory murmur. The vesicles are not developed until puberty or for some years afterwards, and vesicular breathing does not appear until that time.

My first point, therefore, is that the normal breath sounds of the child are twofold, are harsh in quality, and formed in the trachea. At puberty or later they are overlain or hidden by the vesicular element of the adult lung.

The vesicular breathing of the adult (resembling the rustling of leaves in a breeze) is heard normally over the lungs except at the right apex, where the inspiratory and expiratory murmurs of the child may still be heard. The vesicular element is the first to be affected by disease, when the breath sounds of the child again come out. Thus, in emphysema, where the vesicles are destroyed, the condition is characterized by the harsh breathing of the child, but with ratio reversed, the inspiration being short and the expiration prolonged.

The gradations are: harsh (normal) in a child; vesicular (normal) in an adult; harsh-vesicular and harsh (abnormal) in an adult; bronchial, tubular, cavernous, and amphoric (abnormal) in both.

ADVENTITIOUS SOUNDS.

There is perplexity about adventitious sounds. The rhonchus is the large musical sound heard in bronchitis; while the word "râle," indicating a moist sound, is used indiscriminately. The crepitation is a fine dry sound. The râle, however, may be moist at one time, and in the process of healing may become dry, thus becoming a crepitation. And I would suggest in the place of the râle the term "small sound." This might be contracted to "s.s.," and could be described as bubbling, moist, or dry, as the case might be.

There would then be the rhonchus, indicative of bronchitis; small sounds indicative of tuberculous and pus infections; and the crepitation would characterize pneumonia

(and only occasionally pleurisy). The other sounds would be the pleural rub and pleural creaking. To these I would like to add the squeak, a sound which I have observed in the consolidation of tubercle. It is a small rhonchus, and almost as characteristic of tuberculosis as the post-tussive sounds at the apex.

PATHOLOGY OF THE LUNGS.

If we consider the morbid conditions as affecting (1) the air passages, (2) the lung substance, and (3) the pleural coverings, we obtain the following classification of disease; and I propose as a guide to differential diagnosis to give the characteristic symptom and sign of each condition.

CONDITIONS AFFECTING AIR PASSAGES.

Asthma.

Symptom: Sitting up in bed.

Sign: A prolonged wheezy expiration.

Bronchitis.

Symptom: Cough.

Sign: Rhonchus. Wherever there is a rhonchus there is bronchitis. It may be wheezy as in asthma, or sonorous as in chronic bronchitis, but the presence of a rhonchus means an acute, chronic, or superadded bronchitis.

Bronchiectasis.

Symptom: Postural and profuse expectoration, occasional fetor, and occasional haemoptysis.

Sign: A creaking rhonchus—indicating a mixture of pleurisy and bronchitis. A dusky face, a barrel-shaped chest, and clubbed fingers complete the picture. Clubbing of fingers, apart from heart disease, is almost typical of bronchiectasis, and is seldom met with in tubercle.

Bronchopneumonia.

Acute distress is present. The child is obviously ill, with working alae nasi, rapid breathing, and some cyanosis.

Signs: A mixture of rhonchi and râles—that is, of large musical and small moist sounds. In other words, of bronchitis in the upper, and lobular pneumonia in the lower, lobes.

Broncho-infiltration.

I venture to describe this condition as new. It follows measles, whooping-cough, pneumonia, and pleurisy, and is present in children and elderly people for years. The chest is kyphotic in type, with apical and suprasternal retraction, moderate expansion, and raised percussion note. The lower lobes are infiltrated by pus organisms, the pneumococcus, etc. These show their presence by post-tussive small sounds in one or both lower lobes. The sounds may be merely marginal, or marked râles or crepitations may be present throughout the whole or greater part of the lower lobes. The percussion note over the infiltration is little altered; this distinguishes the condition from tuberculous consolidation. From time to time the infiltration lights up, and rhonchi are present in the upper lobes—hence the name "broncho-infiltration."

* From an address on the diagnosis and treatment of lung conditions, delivered to the Leeds Branch of the British Medical Association.

Osler characterizes the condition as "marginal crepitations" or as "crepitant râles common at the bases," placing it under chronic bronchitis. But broncho-infiltration appears to be a distinct condition, and I think its description should be as definite as that of emphysema, infiltrated bases being a constant source of danger.

CONDITIONS AFFECTING THE LUNG SUBSTANCE.

Emphysema.

Symptom: Shortness of breath on exertion.

Sign: A prolonged harsh expiration. The ratio of expiration to inspiration is often 2 to 1, and this, together with the barrel-shaped chest and the hyper-resonant percussion note, is distinctive.

Gassing.

The effects of gassing are apparently to destroy the vesicles and set up peribronchial fibrosis.

Symptom: Shortness of breath on exertion.

Signs: Here the breath sounds of the child are heard in the adult, with loss of vesicular element, harsh inspiration, and feeble, but not prolonged, expiration. A raised percussion note, not hyper-resonant, and good chest expansion, not diminished as in emphysema, are present. Adventitious sounds are usually absent. The presence of coarse, toneless, interrupted rhonchi is a bad sign.

Fibrosis.

Symptom: Shortness of breath on exertion, with one-sided chest wall retraction.

Sign: Impaired percussion note, feeble breath sounds, and increased vocal fremitus.

Pneumonia.

Symptom: Rapid breathing ending in a grunt.

Sign: Harsh inspiration with fine crepitations, and prolonged bronchial expiration. The picture of pneumonia is one of flushed face, dilated pupils, working alae nasi, and rapid breathing, whilst the impaired percussion note and the increased vocal fremitus and vocal resonance of consolidated lung are unmistakable.

Tuberculosis.

Symptoms: Slight haemoptysis, distressing cough, loss of flesh and energy, and evening rise of temperature.

Early Signs: (1) Some impairment of the percussion note. (2) Loss of vesicular element, and the tendency of the expiration to become bronchial. Later, the signs of impaired dullness, post-tussive small sounds at the apex, increased vocal resonance and vocal fremitus are easily detected, while still later come cavitation and surrounding consolidation which set up cavernous breath sounds, increased vocal resonance, and whispering pectoriloquy.

In tuberculous consolidation, especially when healing, the small rhonchus which I would term a *squeak* is often present. It seems almost diagnostic.

Regarding tuberculosis, I think its frequency is sometimes overestimated, and I would place the cases of pleurisy which eventually become tuberculous at 50 to 60 per cent. With regard to tuberculous cervical glands, usually secondary, the percentage is probably not more than 30, the rest being cases of chronic sepsis from oral infection.

In pleuritic or glandular involvement organisms other than those of tubercle should be remembered. And when sending sputum for examination for tubercle bacilli the presence of these other organisms should be asked for. Some authorities rely upon x-ray diagnosis at the hilus. But that these glands may be enlarged by organisms other than the tubercle bacillus should not be forgotten. It is possible that at the hilus the percentage of tuberculosis is overestimated.

CONDITIONS AFFECTING THE PLEURA.

If we regard the lung as encased in two paper bags, one within the other, we gain a rough idea of the pleuritic coverings, the opposing sides of which work in harmony in the normal movements of the lung. If they become roughened by inflammation we have pain and discomfort. If they are separated by effusion, pus, or air we have replacement of lung, and, naturally, absence of lung signs and sounds.

Pleurisy.

Symptom: Pain in the side on coughing.

Signs: Occasionally fine crepitations are heard resembling those of pneumonia, but these seem nearer to the ear through the stethoscope. More generally a friction sound is heard, whilst in chronic pleurisy the sound is creaking.

Pleurisy with Effusion.—When the pleuritic coverings are separated by a serous (watery) effusion, the fluid gives a flat resisting percussion note, and the lung being absent there is absence of breath sounds, of vocal fremitus, and vocal resonance.

Empyema.—Empyema being a purulent effusion, practically the same conditions prevail as in serous effusion.

Pneumothorax.—Here the pleura is torn and air replaces the lung, and there is a tympanic percussion note, with absence of breath sounds, marked collapse of the patient, and marked pain in the affected side. In some cases the breath sounds may be amphoric.

Chronic Pneumothorax.—In two cases recently seen of chronic pneumothorax, following tubercle and empyema, both of some years' standing, and in which the diagnosis was confirmed by x-ray pictures, the characteristic sign was a distinctly musical inspiration and expiration. In one case the coin sound was very marked.

New Growths.—This is a group apart, and is of rare occurrence, usually secondary to growths in other parts of the body, and need not be dealt with in detail at the present time.

SUMMARY.

1. The bed-rock of pulmonary diagnosis is the normal breathing of the child.
2. The normal breath sounds of the child are harsh, of the adult vesicular.
3. The vesicles are not fully developed till puberty or some years afterwards.
4. There is more mischief at the base of the lung than at the apex.
5. Lung examinations should always include the lower lobes.
6. Post-tussive small sounds at the apex indicate tubercle, at the base pus infiltration.
7. A doctor should put a bright needle into a dull base, as an unresolved pleurisy may be a missed effusion, and an unresolved pneumonia a missed empyema.

PUERPERAL INSANITY.

NOTES OF

CASES TREATED BY INJECTIONS OF OVARIAN EXTRACT (WHOLE GLAND), FROM THE DUNDEE MENTAL HOSPITAL, WESTGREEN.

BY

E. A. WILSON, M.D., AND T. CHRISTIE, M.B., CH.B.,
LATE ASSISTANT MEDICAL OFFICER. ASSISTANT MEDICAL OFFICER.

I.—BY DR. WILSON.

THE following cases are recorded to illustrate the value of the hypodermic injection of ovarian extract in puerperal insanity and possibly in other forms of acute confusional insanity. It probably acts by bringing about the re-establishment of menstruation.

CASE I.

Mrs. A., aged 25, was delivered of her first child in January, 1922, and within a week developed acute confusional insanity. This continued until she was admitted to Westgreen Mental Hospital, six months later, in an emaciated state. She remained in a condition of acute mania for the next twelvemonth, during which time she had calmer periods and gained weight, but only to lose ground again. There was no menstruation. At the end of the nineteenth month a hypodermic injection of extract of ovary corresponding to 30 grains of fresh gland was given, and at intervals of from four to nine days successive injections, amounting to eight in all. From the first injection improvement was seen, and within six weeks she was up and going about, rational, interested in her surroundings, sleeping well and eating well. Menstruation began again, and in the twenty-third month since her breakdown she was discharged home as cured. She has since undertaken her regular household duties with success, and has undergone another pregnancy with no trouble.

CASE II.

Miss B., aged 22, gave birth to a child in June, 1922, and ten days later she broke down. She was admitted immediately as a typical case of acute puerperal insanity. During the first three months of her illness her mental state was unchanged, and there was no menstruation. The extract of the ovary was given