Elementary Anatomy,

AS APPLIED TO NURSING.

By BEDFORD FENWICK, M.D., M.R.C.P.,
Physician to The Hospital for Women.

LECTURE VII.

(Continued from page 388.)

ANOTHER practical point of importance is the benefit of massage to the muscles of the arm and forearm, in these cases, as without such help the limb from its restricted movements tends to become much wasted.

The cavity of the chest is bounded by the ribs in front and at the sides, with layers of muscles between each which by their contraction and relaxation act as the active factors in the process of respiration by expanding and contracting the thoracic cavity. Behind, there is the spinal column to which the ribs are attached; in front, there is the corresponding central support in the shape of the breast bone or *Sternum*. Above, between the collar bone, the shoulder and the spine, the cavity is closed in by layers of muscle and of fat; below, the chest is shut off from the abdomen by the broad muscular wall which is called the diaphragm, of which we are only aware when attacked by hiccough because this is due to sudden irregular contractions of the muscle, and consequently spasmodic expirations. The cavity of the chest is divided into two halves; the left containing the heart and left lung, and the right, the right lung. Each half is coated, so to say, with the serous membrane called the *Pleura*, which also is reflected over the lung—an arrangement which can be better understood if a handkerchief, folded in two, be wrapped around the hand. The part touching the hand represents that part of the pleura which covers the lung, the external layer representing that which coats the chest walls. From this, it will be easily understood that between the two layers of the pleura there is a cavity which, in health, is of no importance and the apposed surfaces of which are kept moist and greasy by a fluid secreted by the membrane, just as we have seen that in all other parts of the body, such, for example, as the joints, friction is prevented between the serous surfaces by the oily fluid which they secrete.

In like manner, the heart is surrounded by a bag extending from the pleura, but in this case called the *Pericardium*. The pericardial membrane is also kept moist by its secretion, so that the heart can dilate and contract easily in its own receptacle. The importance of these cavities is seen when the patient is attacked by inflammation of either of the serous membranes, in the one case known as *Pleurisy*, in the other as *Pericarditis*. The former is comparatively frequent whenever there is inflammation of the lung itself, or of the chest wall. For example, after abscesses, broken ribs, erysipelas of the chest or great exposure to cold, the pleura may become inflamed. The patient complains of a sharp cutting pain on the affected side, followed, as a rule, in a short time, by a dry, hacking cough. There is more or less fever, and if we could look into the chest, we should find the surface of the pleural membrane very congested and roughened, and, in fact, exhibiting the ordinary signs of inflammation, with a lymph-like fluid exuding from the surface.

If the process stops here the patient may recover without any bad results, but, as a general rule, the lymph causes bands of adhesion between the opposite layers of the pleura, and so the movements of the lung in that cavity are more or less permanently interfered with. In many cases, especially in unhealthy people, or in those in whom the pleurisy has resulted from inflammation of the lungs, the process continues, and the exudation from the pleura becomes more watery, forming a fluid which accumulates and gradually distends the pleural cavity, causing the condition popularly known as "water in the chest." The physical consequences of this, it will easily be understood, are first to compress, and thus diminish the power of expansion of, the lungs, and so to cause great difficulty of breathing on the part of the patient. The blood not becoming properly oxygenated causes blueness of the lips, fulness of the veins of the face, and other symptoms such as palpitation and a sense of suffocation, denoting the disturbance of the heart's action. Fortunately, these results are minimized to a large extent by the ability in most cases of the opposite lung to take on increased action; but, having to do the work of both lungs in the same time, the frequency of respiration is, of course, greatly increased, which accounts for the rapid and laboured breathing observed in these cases, or in any others in which the action of one lung is more or less embarrassed. As a rule, pleurisy is one sided; when the inflammation affects both pleuræ you can readily understand that the case becomes very grave. If the fluid accumulates in the pleura, the first effort of the doctor is to obtain its re-absorption by the means of medicine which will drain away from the blood its watery constituents, and thus will cause fluids to be sucked up by the blood vessels from the tissues to replace the loss. Coincidently, as a rule, counter irritation is employed in the form of blisters or irritant applications to the walls of the implicated side of the chest, and these act by exciting the circulation of the blood through the affected tissues to increased activity. In many cases, by this means, a comparatively large amount

previous page next page