Lectures on Anatomy and Physiology as Applied to Practical Nursing.*

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LECTURE III.

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With regard to the diseases that have been mentioned, it is very common to find that, especially after middle age, and in those who have lived a very sedentary life, the muscles under the microscope show a large number of fat cells between the different fibres. It can easily be understood that the presence of fat must prevent the muscle from acting as strongly as it would do if there was nothing to impede its power. The danger of the condition is often shown when it affects the intestines, and so the patients become subject to chronic constipation, which is, of course, very difficult to cure. Still more important is it when it affects the Heart, and so prevents the great organ by which life is maintained from properly fulfilling its functions. So much for the moment, for Fatty Infiltration.

The other disease to which attention was drawn is infinitely more serious to the life of the patient, because in Fatty Degeneration we find under the microscope not only that the muscle fibres are separated from each other by layers of fat cells, but that the muscle fibre itself becomes converted here and there into fat, and, of course, therefore loses its essential capacity to contract, and exercise the power of movement. When this change takes place, for example, in the muscle of the Heart, it will be at once understood that the possibility of a sudden failure of the muscle to maintain the regular contraction of the organ means at any moment the death of the patient, and therefore the importance of the condition cannot be exaggerated.

As we shall see, when we come to consider the Diseases of the Heart, very special measures and nursing are required to remove as far as possible the dangers of these conditions, and, when cure is impossible, to afford the patient relief from the serious symptoms which are caused by the muscular weakness of the controlling organ of the circulation of the blood.

But even in general nursing, in a great variety both of medical and surgical cases, the nurse will often be called upon to observe the importance of this condition to her patient. It is well, therefore, that she should always remember that Fatty Infiltration is by itself comparatively harmless, and comparatively curable; but that Fatty Degeneration of the muscle is a condition of the utmost gravity, because, so far as we know at present, it is beyond repair. This distinction is so important that it may be well to emphasise and illustrate it. Fatty Infiltration of a muscle, then, is a deposit of fat cells between the muscle bundles, and between the separate fibres of each bundle, just, for example, as wool or cotton is often combined with silk in the texture of materials. Everybody knows that this mixture of an inferior material with that of a better quality results in cheapening the whole article, and so Fatty Infiltration cheapens the muscle which is affected by that condition. But Nature has the power of removing the mixture which she has introduced into the normal tissue, and of absorbing the fat from it; and then the muscle recovers its complete form, its perfect elasticity, and, therefore, its characteristic and essential power of contraction.

On the other hand, the adulteration of the silk with some commoner material is sometimes carried to so great a degree that there is practically no silk left at all, or, in other words, the special qualities of that material are entirely lost. So we find that in Fatty Degeneration the muscle fibre itself becomes changed to a large degree into fatty tissue, and the quality of the muscle, therefore, is entirely destroyed. So far as we know at present, Nature has no power of restoring tissue so completely degenerated, and the result is, therefore, that the loss to the individual is irreparable.

Now let us realise what this means in health and disease. When the body is growing in childhood and young adult life, the whole powers of the system are taken up with the formation of bones, muscles, the various organs, the nervous system, and so forth; the result is that Nature is spending all her income, and has no time to lay up a balance at the bank. Indeed, it may be said, as a general rule, that the belief of a famous ancient athlete is a physiological fact, and that a young man in perfect health and condition should not have an ounce of superfluous fat upon him. But, as soon as the body has come to its full growth, and especially when the natural activity of the human being begins to lessen, as in middle life, the inevitable tendency is for the surplus energy of the body to be stored up, as a sort of reserve, in the shape of fat cells on the body and limbs. If this condition goes much beyond the accumulation of what Nature requires to support

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