Heart Disease.

By Bedford Fenwick, M.D.,
Physician to the Hospital for Women, Soho Square.

So much misconception, even at the present day, is attached to the meaning of the term, Heart Disease, that a brief explanation of the various forms included therein, and their widely different significations, may not be without interest to nurses. It is a curious fact that until some seventy years ago the precise diagnosis of heart disease was regarded as very difficult; and it is still more strange that it is only within the last thirty years or so that an accurate prognosis, or forecast of the progress of any particular case has been possible. In the early years of this century, and especially when the stethoscope was first employed by medical men in this country, the sounds of the heart when diseased were very variously described. But with the aid of this instrument the first and second sounds were made clearly audible in health, and the blowing sounds or "murmurs," as they are called, which replace the ordinary sounds when the valves are diseased, became fully described and understood. The first result of this increased knowledge, however, was not unnatural. When a patient was found to be suffering from incurable disease of one or more of the valves, it was considered that his chances of life were very limited; and very often such patients were told that their deaths were imminent. In time it was, of course, found that these gloomy prophecies were rarely fulfilled, and as a matter of fact there is a hale and hearty gentleman living to-day who, fifty-seven years ago, on account of valvular disease then discovered, was advised to make his will, retire from business, and prepare to depart this life. He took this advice, but as he felt better instead of worse, at the end of six months, he started to travel round the world. At the end of three years he returned home and went into business again.

As knowledge increased it was found that the results to the patient varied according to the valves which were implicated, even if they were affected by the same kind of disease; and that, roughly speaking, disease of the valves on the right side of the heart was comparatively rare and comparatively harmless, and that while disease of the mitral valves might be quickly compensated for, and might for months or years cause little practical inconvenience to the patient, disease of the aortic valves more or less quickly resulted in serious symptoms, and was a frequent cause of sudden death.

The disease which chiefly affects the valves is a thickening and roughening of their edges, preventing these from falling together, and so closing their respective orifices, as they do in the healthy condition. The first consequence of this is that blood from the left ventricle, instead of being pumped entirely along the aorta, partly flows back through the mitral opening into the left auricle. Instead, therefore, of the two cavities being properly emptied of blood at each contraction of the heart, they are kept more or less constantly distended, and the rest which Nature has provided for the muscular walls of the organ, between the alternate contractions and dilations of the cavities, is never obtained. From this interference with the natural process there arises what is now known to be the real danger of valvular disease. The muscle of the organ becomes overtired by the constant strain to which it is subjected, and if it does not increase in strength it will develop an increasing and fatal degree of weakness. In the case of a labouring man, the muscles of the arms become developed and strengthened by their constant use, but if the man is incapacitated by illness the muscles as rapidly shrink and waste. So, in the case of the heart a development of its muscle takes place to meet the increased work which it is called upon to do, and this causes a general enlargement of the organ, to which the term *Hypertrophy* is given. So long as this condition is restricted within due limits, it is an element of safety rather than of danger, and is in fact Nature's method of compensating for the valvular disease, inasmuch as it enables the heart to carry on its work. Another consequence, however, of valvular disease, which is known as *Dilatation*, consists of the exactly opposite condition —expansion of the cavities of the heart, and, therefore, a weakening of the walls of the organ, with a consequent loss of power in its action. The pumping action of the heart being diminished in force, the blood is not propelled along the vessels as easily as it should be, and consequently, there is a tendency to more or less local stagnation of the blood current, giving rise to the condition, in various organs and tissues, of what is termed "congestion." For example, in such people, the blueness of the lips and extremities of the fingers and nose, together with a coldness of the hands and feet, are all caused by the defective power in the circulation of the blood,

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