Blood Pressure Measurement by Nurses.*

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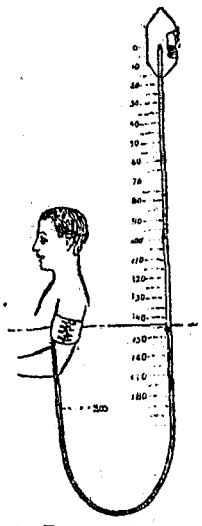
The subject of blood pressure measurement by nurses is one that is sure to come to the front in the near future. This measurement has introduced a new quality in clinical medicine that must be reckoned with, and is sure soon to pass from an occasional procedure to a routine measure.

I can remember when I first substituted at St. Luke's Hospital, as a student, that it was part of my duty to take the temperatures in the wards every evening, but by the time I became a regular resident this procedure had passed entirely to the nurses.

This is not the place to discuss theories as to the significance of high or low pressure. The only point is that it is a quantity that is affected by disease, and can only be measured by instruments of precision. No one of experience would think of measuring the blood pressure with the fingers any more than he would think of measuring the temperature by the sense of touch.

The quantity known as blood pressure is the amount of force required to obstruct the pulse wave in the artery. It is measured by applying elastic pressure on the outside of the artery and then measuring this pressure at the time when the pulse wave can no longer be perceived beyond the point of pressure.

Many instruments have been devised for this purpose, some of them more and some of them less complicated and elaborate. My own instrument, in its simplest form, consists of two rubber bags, in which is placed a solution of cadmium borotungstate, having a specific gravity a little more than twice that of water. One bag is emptied into the other and then bound around the brachial artery. Now the full bag is elevated until the solution running down into the bag that is applied to the artery makes pressure upon it and the upper bag is then elevated still more until sufficient pressure is obtained to stop the pulse. It is found that pressure in the bag around the arm is proportionate to the height to which the other bag is elevated, so that numbers may be placed on the tube connecting the bag, which when read at the level of the brachial artery when the pulse disappears gives the blood pressure in terms of milimetres of mercury. This instrument has been tested in hundreds of cases and found to give accurate readings. It has the advantage of being portable and there are



Dr. Bishop's Blood Pressure Machine.
(As perfected in the Laboratory of Clinical Observation, 616, Madison Avenue, New York.)

no glass tubes to be broken. I always carry one in my pocket and use it more often than I use a thermometer; but then, of course, my private practice is almost entirely confined to cases of heart and arterial disease.

In many hospitals in England and some in America the blood pressure is customarily put on the bedside chart with the temperature and pulse. Its measurement is so simple and its significance so often important that I think it is sure to become a routine matter in clinical work.

Very often, indeed, in chronic heart disease I have been able to see impending trouble by the discovery of an elevation of twenty or more points in blood pressure. This is also said to be true in some other conditions—viz., eclampsia. What is more pleasant to contemplate is that in the treatment of the heart and blood vessels any improvement is often shown in a fall of blood pressure from a great height to something approaching normal.

There are several points that occur to me in this connection. Errors in making the measurement are almost always in the direction of too high readings. When the machine fails to work and the artery is not obstructed, the pressure may still be recorded by the instrument. For that reason, where low pressure is not to be considered, high pressure can always be ruled out if a reading within normal

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