

Notes on Practical Nursing.

THERMOMETRY.—II.

A LECTURE TO NURSES.

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Before the invention of registering thermometers it was always necessary to read the patient's temperature whilst the instrument was *in situ*, otherwise the mercury would fall in the tube to the level of the temperature of the air before it could be recorded. The first clinical thermometers generally used were therefore somewhat large and clumsy, about 10 inches in length, the degrees engraved on the stem beginning about 5 inches from the bulb, for convenience in reading. The profession of nursing was then in its infancy, and the medical man himself always took and recorded the patients' temperatures.

In these clumsy thermometers the mercury took nearly half-an-hour to rise and become stationary, and in order to save time it became customary to warm the thermometer by means of a match, holding it before a fire, or plunging it into hot water until the colour in the tube was some 3 or 4 degrees above that which the doctors estimated to be the temperature of the patient; he then quickly placed the instrument in the axilla or other chosen site and watched carefully until the mercury was stationary. Generally speaking, it fell a little below the patient's correct temperature and then slowly rose again to the right height.

An hour was considered long enough in which to take the temperatures in a ward of 20 beds and this when almost each patient was provided with a thermometer at the same time. The nurse gave each patient a thermometer some few minutes before the physician was expected. On his arrival he walked quickly round to see that each instrument was in its proper position; some 20 minutes later he sent a clerk or dresser to make a tour of the ward and write down each individual temperature without, however, disturbing the thermometers. Five minutes or so later, the physician himself went round and compared his readings with those of the dresser; if any differed, the instrument was left undisturbed another five minutes, and so on, until the mercury remained stationary. In private practice busy doctors found it impossible to devote the time necessary to take their patients' temperatures except in very urgent cases, and as the observations of the sick person's relatives were by no means to be relied upon, the taking of temperatures did not become a matter of medical routine until Messrs. Casella made, for a Dr. Aitken, the first portable registering maximum thermometers, "by

enclosing a little air between the mercury in the bulb and that serving as an index."

The using of these instruments was still somewhat tedious. The index had to be set each time by warming the bulb until the mercury rose about 1 inch above it; it had then to be shaken down until the index stood at 95° Fahr. It was necessary to carry the thermometer upside down, for if the index were once shaken into the bulb the thermometer ceased to be a registering one.

The size of the instrument was reduced by Dr. Clifford Allbutt to 6 inches.

The clinical thermometers in present use have their index formed by a break in the column of mercury, caused by a contraction following a dilatation in the bore of the capillary tube. Different makes are so constructed that they will register the body temperature in periods of 30 seconds, two minutes and so on up to 5 minutes, the more fragile and expensive instruments taking the shorter times.

They are about 4 inches in length, and are graduated from 95° to 110° Fahr., each degree being subdivided into five spaces, each space being reckoned as two decimal points.

The temperature of the human body is generally taken in the axilla, mouth, groin, or rectum, and very exceptionally in the vagina.

The axilla is the least reliable of all these situations, but it is the most convenient in those cases when there is delirium, injury to the mouth, inability to breathe through the nose, great dryness of the lips, or uncontrollable facial twitchings, as in some nervous and choreic patients.

In order that a temperature taken in the axilla may be approximately correct, the patient should be instructed to keep his arm close to his side (if in bed the nurse should choose the side he can most comfortably lie upon) for some few minutes before he is given the thermometer. The time must be so arranged that a clear half-hour has elapsed since any washing or dressing has taken place.

The axilla must be wiped dry from any sweat before the thermometer is inserted, and care must be taken that it is not in contact with any clothing. The axilla must remain a closed cavity until the operation is complete. This can be accomplished by folding the patient's arm across his chest in such a manner that his fingers rest upon his opposite shoulder.

Temperatures taken in the axilla are worthless in the case of very emaciated persons.

The rectum gives the most accurate results, but there are manifest difficulties in employing this method except under certain circumstances. For infants it is most useful; the best plan is for the nurse to pass the well-oiled thermometer into the rectum whilst holding the child carefully on her knee in such a manner that a sudden kick or movement may not break the instrument. It is quite

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