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MEANS FOR THE MORE PERFECT STERILIZATION OF SURGICAL INSTRUMENTS AND DRESSINGS.

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(Continued.)

DR. WUNDERLICH.—Since I have read the report of experiments which have been made by Dr. H. Davidsohn, I have followed his directions for the disinfection of instruments, and the results have been satisfactory to me.

After an operation the instruments are cleaned immediately with cold water, soap, and brush, and placed in a vessel containing cold water.

Syringes and other hollow instruments are cleaned and filled with water prior to being placed in the water-bath. The instruments must be completely covered with water, and the vessel closed with a cover to insure an elevation of temperature to 100° C. in all its parts; and the boiling is continued for five minutes. After removal from the water-bath the instruments are dried with sterilized towels.

Prior to the next operation, the instruments are again subjected to the action of boiling water for five minutes; when cooled off, they are ready for use.

Dr. H. Davidsohn made numerous experiments in the Hygienic Institute of Berlin, in order to ascertain by which method it would be possible for any physician to disinfect his instruments perfectly in a short time and without special apparatus: a method applicable in

the house of the patient as well as in the office of the physician. He considers chemical reagents and germicides as inadmissible for this purpose, because they either injure the instruments or are unreliable and inadequate. He rejects dry heat, because it requires too much time; three hours' exposure being required at a temperature of 140° C. to kill the spores of anthrax.

Passing instruments through flame is objectionable, because it destroys the edge of the instruments, and not all of them can be subjected to it.

Moist heat in the form of a jet of steam is probably the most energetic disinfectant at our disposal; but for ordinary use of the physician it has this drawback: it requires a special apparatus, which is rather cumbersome and not easily transported.

Moist heat in the form of a hot water bath remains available; it is readily obtained and applied everywhere: and, as Davidsohn's experiments demonstrate, it fulfils all requirements for perfect and complete disinfection.

He made numerous experiments with pure cultures, but of more interest to the surgeon are the experiments made with mixtures of pus and cultures of staphylococ. pyogen. aureus and albus, streptococ. erysipelat., bac. pyocyaneus.

A medium sized test tube was partially filled with this mixture; the tube was placed in a water-bath in such manner that the margin of the tube was above the surface of the water, and no water could enter the tube and mix with its contents.

The vessel was covered, and the temperature kept at 100° C. for five minutes, with the result of destroying all the pyogenic bacteria.

The same experiment was made with a mixture of pus and a medium in which spores of anthrax were suspended. Exposure of five minutes' duration to a water-bath of 100° C. sufficed to destroy these most resistant of all pathogenic micro-organisms.

Subsequently, D. brought mixtures of pus and cultures in contact with instruments, such as catheters, artery-forceps, scissors, hypodermic syringes. Some of the instruments he placed in the hot