

A METHOD OF CONTINUOUS STERILIZATION OF INSTRUMENTS, TOGETHER WITH ASEPTIC HYPODERMIC MEDICATION

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It will be seen in the illustration that an attempt has been made to demonstrate, pictorially, a procedure whereby instruments and hypodermic medication may be rendered reasonably safe, convenient and prompt as concerns sterility, as well as designedly simple from a practical standpoint, particularly as relates to emergency room, minor surgery or similar work.

Briefly stated, the essential features are that little or no attention under this system need be paid to the matter of the mechanical or the chemical cleanliness of instruments after this sterilizer is in operation, with consequent relief of mind where one is without skilled help; that the annoyance of the sterilizing receptacle running dry or overflowing is avoided; that the applied agents mentioned are convenient for prompt use, and that the nearest tinsmith or plumber may readily construct a similar contrivance for those who may desire such innovations in their operating rooms, connected up with their present equipment.

The water used for hypodermic injection (sterile and hot) is withdrawn from the small metal well, shown in picture (c) into the barrel of sterile syringe, aided by the plunger, the tablet then being dropped into the water-filled barrel, and the needle removed from ring (d) on the side of the well by means of the hickory-wood pincers (e) that are kept immersed in a solution of liquor formaldehydi within the large test-tube, also shown in the view, the barrel being screwed on the needle-thread, while the latter is presented in a perpendicular manner by the wooden forceps grasping needle away from the nub, the same utensil later withdrawing the wire from the needle.

If an all-metal syringe is used the needle is simply adjusted over the end of syringe in the same manner, and clamped in place in the usual fashion by turning the plunger handle bars from above. Absolute alcohol, or full-strength tincture of iodine¹ is now applied to the surface of the skin about the size of a silver dollar to render the skin sterile, through which the needle is then passed at a point previously determined on, thus completing the procedure.

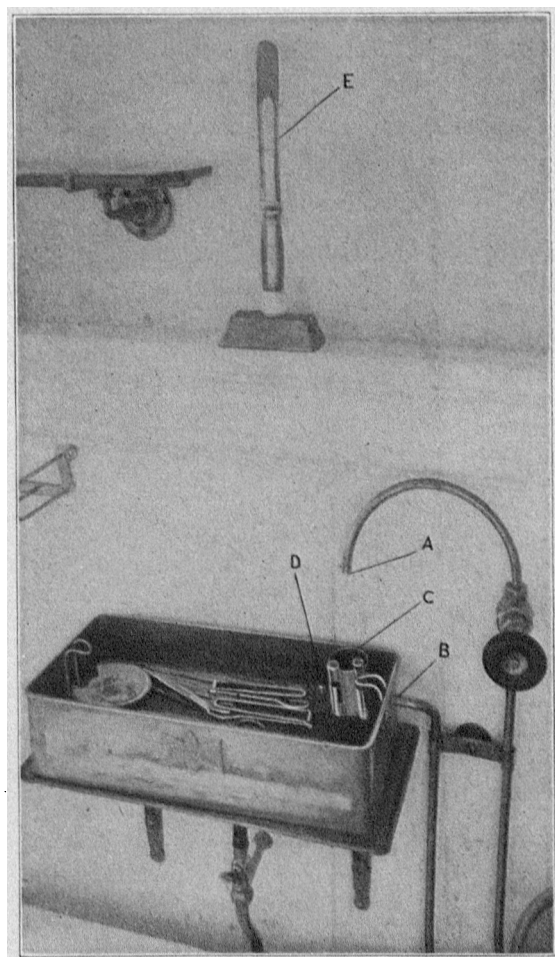
The water-inlet marked *a*, in starting up the sterilizer, is at first turned on full and the entire receptacle, inclusive of the well, allowed to fill up to a point indicated by *b*, or the water-pipe, which does not thus permit the sterilizer at any time to overflow, and which drains into an escape-pipe or pail placed on the floor, or connected with the house drain-pipe.

When this has been accomplished the water-inlet pipe *a* is now allowed to drip constantly into the small metal well *c*, from which it escapes or "slops over" down its circular walls into the sterilizer proper, and in that manner going to supply the water lost by evaporation in the form of steam, and which of course prevents the sterilizer from ever running dry during actual use.

The instruments when needed, or after use, are simply removed to and from the sterilizer by the aid of the wooden forceps already mentioned, which were made of

this material to withstand the action of the formaldehyd solution. The instruments during use are dropped on a sterile towel or placed within a dish containing a 1 per cent. solution of liquor cresolis compositus.

Sodium carbonate to the amount of 3 or 4 ounces placed in sterilizer each morning largely prevents the formation of rust or oxids on the utensils. A few turns on a barber's strop or hone of the cutting-edged instruments after being dried, when the Bunsen gas flame is turned off each night, maintains the sharp cutting surface. The low degree of moist heat present of 100 C. as concerns the steel does not appear to have any deleterious effect on the temper of this metal.



Apparatus for continuous sterilization of instruments.

The sterilizer may be heated continuously either with electricity or with gas, aided with a Bunsen flame.

I am greatly indebted to Dr. D. P. Bush, assistant medical officer, for suggestions in connection with the method and for help otherwise extended.

A CHEAP AND PORTABLE APPARATUS FOR FORMING CARBON DIOXID PENCILS

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Many physicians are no doubt deterred from using solidified carbon dioxide pencils for freezing off moles, warts and epitheliomata, by the cost and cumbersomeness of the large tank of liquid carbon dioxide commonly used for making the pencil.

Prest-O-Tire tubes are small steel tubes filled with liquid carbon dioxide, sold for inflating automobile tires. They weigh less than 2 pounds and can be carried in the usual surgical

¹ The United States Army Medical Corps used this agent for the sterilization of the skin previous to the injection of antityphoid vaccine.