fifth day, respectively. In Case 11 the glands swelled the second or the fifth day—according to whether we count the “cold” in the disease or not. In neither of these cases was the swelling of these glands accompanied by any severe pains. The glands were not tender, but were hard, they showed no marked periadenitis and what must be considered as especially characteristic, the swelling concerned most often the glands anterior and posterior to, and behind the upper end of the sternocleidomastoid only. This rule had only one exception. In Case 7 the disease opened with chills, headache, pains in the abdomen, back, and sometimes vomiting. Complaints of some pain in the throat were present in all cases. In no case were the pains so severe as in a case of real tonsillitis.

The affection of the kidneys in this disease is rather striking. Among eleven cases three patients had acute hemorrhagic nephritis. The nephritis began in one case on the fifth day, in another on the seventh, and in the third on the eleventh day after all symptoms had disappeared and the glands had begun to get smaller. There is no other disease, except perhaps scarlatina, known in the course of which the kidneys become as severely involved as in this disease. Case 7 the patient had, besides small quantities of albumin, white and red blood cells and cubical epithelium in the urine. Traces of albumin were found in nearly all cases, even when the fever was low. The spleen and liver were somewhat enlarged in all cases, the spleen so much so that it was easily palpable, and the liver one inch below the ribs. Pain in the abdomen was a frequent complaint, and constipation a regular one. Adenoid vegetations were found in five of the cases. Characteristic for all cases was the lengthy duration of the swelling and the slow absorption. In three of the cases suppuration of the glands occurred. All cases were accompanied by fever, but in one case only did this reach as high as 105 degrees, while in the other cases it ranged between 100 and 104. It was a continual fever and disappeared by lysis.

The bacteriologic examination of the pus of three cases showed as follows: In one pure cultures of influenza bacilli, in the second influenza bacilli and streptococci, while in the last streptococci only were found. In Case 1 streptococci were found in the throat; in Case 3 influenza bacilli, diplococci and staphylococci; in Case 8 staphylococci and large diplococci; in Case 6 streptococci and diplococci.

The diseases had all the characteristics of an infectious disease, Cases 7, 8 and 9 would even justify one in calling the disease contagious. The prognosis is good in all cases. In Case 2 only, I felt uneasy for several days.

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A SIMPLIFIED HEAT METHOD OF STERILIZING AND STORING CATGUT.

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So many prominent surgeons have adopted my suggestions for the preparation of catgut that I wish to describe methods which make the procedure vastly simpler in its application, and which at the same time remove any element of uncertainty regarding the results likely to be attained.

Catgut prepared according to this formula has been used by the Mayo brothers in almost 5,000 operations and has been adopted by such well-known surgeons as Drs. Burrell, Collins,

Cushing, Deaver, Finney, Frazier, Meyer and Murphy, as well as the men on the staff of the Massachusetts General Hospital and on that of the Pennsylvania Hospital and many others. This is a sufficient testimonial to the worth of the procedure, and I am more than certain that the present modification of it here described can not fail to attract new users.

As at present recommended very little time or trouble need be expended in carrying out the preparation of catgut. The materials used are exceedingly cheap, while the requisite apparatus, as shown in the accompanying illustration, is very crude and can be found in any hospital or in any physician's office.

The process can be divided into three steps: (1) The physical preparation of the material, (2) its sterilization, (3) its storage.

1. The ordinary commercial ten-foot catgut strand is divided into four equal lengths, each of which is made into a little coil about one and one-half inches in diameter. By twisting the last free end about four times around this little coil the latter will maintain its shape. These coils in any desired number (I usually take about 120 of them at a time) are strung on a thread like beads on a string in order that the whole number may be handled at once. This string of coils is hung in a metal can, better still in a beaker glass, but is not allowed to touch

the bottom or sides. I suspend them by carrying the two ends of thread through a small opening in a pasteboard cover, which is placed on the receptacle. The same opening serves to admit a thermometer, which is carried down to exactly the point where its mercury bulb is on a level with the topmost coils. Liquid petrolatum is now poured in, the quantity being sufficient to immerse the catgut and the bulb of the thermometer.

2. The vessel is set on a pan of sand, under which is placed a tiny gas flame of merely sufficient intensity to raise the temperature of the oil to 212 F. within from one to two hours. A little practice enables one to guess the size of flame necessary for this purpose. This is best done in the evening, and the temperature allowed to remain at about 212 F. (a few degrees variation does not matter) until morning. The heat is then increased to such an extent that the temperature will run up to 300 F. in an hour; the gas is then turned off and the temperature of the oil allowed to return to about 212 degrees.

3. The pasteboard cover, together with the string of catgut coils, is lifted off, the superfluous oil is allowed to drop off, and then the thread is cut, allowing the coils to drop into the following mixture:

Columbian spirits	100 parts
Todin flakes	1 part

1. "A Simple Heat Method of Sterilizing and Storing Catgut—Preliminary Report." Interstate Med. Jour.

The catgut is now ready for immediate use and will keep without deteriorating for any length of time. The jar may be opened any number of times, so long as a sterile instrument is used for removing the coils, since the iodine protects the coils that are left behind from accidental contamination.

The physical qualities of catgut so prepared will astonish the surgeon who uses it for the first time. I am very certain that a blind man used to handling catgut prepared by other methods would not recognize this product if it were placed in his hands. It is as supple as silk, highly elastic and almost as strong as the raw material. It is easily seen on account of its color, will not untwist when it gets wet on account of the oil remaining in it, and for the same reason is more than usually resistant to absorption. That the strands are sterile as well as antiseptic goes without saying.

A SIMPLE DEVICE FOR IRRIGATION OF THE BLADDER.

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The inadequacy of a piston syringe for irrigation of the bladder is a generally appreciated fact. A few of the numerous models of bladder syringes will stand boiling, but they are all rather expensive and easily get out of order. So long as the piston fits tightly, the fluid unavoidably is injected in jerks and not in a continuous stream. In spite of these obvious disadvantages of the piston syringes they are recommended by the majority of text-book writers, because they permit an exact estimation of the amount of fluid injected into the bladder—a point of considerable practical importance. In actual practice, the piston syringe is frequently supplanted by the glass irrigator or the rubber fountain syringe. The glass irrigator, while it permits an exact mensuration of the injected fluid, is not easily sterilized. The fountain syringe can be boiled, but precludes the determination of the amount of fluid which passes into the bladder. For this reason the rubber fountain syringe may prove a dangerous instrument in the hands of the inexperienced. The Pollitzer bag, which is used by some physicians, seems preferable; it can be boiled, at least a few times, and allows a rough estimation of the quantity of fluid injected.

It must be admitted, therefore, that an improvement of our present appliances for bladder irrigation seems desirable.

I present here the description of a simple apparatus, which I constructed some time ago, and which in my hands has proved extremely satisfactory. The principle of the device can be briefly outlined as follows: By means of air pressure fluid is forced out of a bottle, exactly as in Fowler's bottle used for hypodermoclysis. The fluid is conveyed through a rubber tube to the bladder. By the interpolation of a three-way stop-cock the solution can be alternately injected into and removed from the bladder by a corresponding turning of the handle of the stop-cock.

DETAILS OF CONSTRUCTION.

In the accompanying illustration the bottle A is a common one-quart medicine bottle such as can be bought in almost any drug store. These bottles, as a rule, carry a double graduation, on one side in ounces, on the other in cubic centimeters. The bottle is closed with the rubber stopper B. This stopper is perforated by two bores into which are screwed pointed metal tips for the attachment of rubber tubes. To the one tip is connected the air bulb C. The other bore connects on its under end with a rubber tube H reaching to the bottom of the bottle. The rubber tube D connects the bottle with the stop-cock E. This is a three-way metal cock which, I believe, can be bought in any instrument store. To this is attached a No. 10 or 11 Nelaton catheter F. The handling of the stop-cock is facilitated by a shortening of the catheter. Especially in gynecologic work, a catheter of about 7 inches is long enough. To the third tip of the stop-cock is joined a rubber tube G, which leads to the waste jar.

METHOD OF USE.

The apparatus is used in the following manner: The air bulb is detached and the rest boiled; it seems unnecessary to sterilize the bottle every time it is used. Of course, this bottle contains only sterile, as a rule antiseptic, solution. The bottle can be kept sterile and ready for use, if immediately after its use the rubber stopper, together with all the rubber tubing attached to it, is removed, and the bottle closed with another rubber stopper which has been boiled with the tubing.

Into the bottle is poured the fluid to be employed for irrigation. This solution can be kept in stock in a higher concentration, and with the help of the graduation of the bottle may be diluted to the desired concentration by the addition of sterile water. The stopper B is fitted tightly and the air bulb C attached to the corresponding tip. The stop-cock is turned so that it connects tube D with catheter F. Air is pumped into the bottle until the fluid escapes from the eye of the catheter. In this way the whole system is freed of air. If the apparatus is used preceding a cystoscopic examination, the stop-cock is set to connect tube D with G. The air is thus removed only from tube D, while the air within the catheter is permitted to pass into the bladder, where it forms the bubble which, during the cystoscopic examination, marks the vertex of the bladder.

The stop-cock is set into a middle position, which shuts off all three ways, while the catheter is introduced into the bladder. By turning the handle of the stop-cock with the thumb of that hand which holds the catheter between the first and second finger, the catheter is placed into communication with the waste tube G and the urine drawn from the bladder. The handle is then turned 90 degrees upward and tube D will be connected with the catheter. The other hand (usually the right one), now grasps the air bulb and slowly pumps air into the bottle. The escape of the fluid, both its celerity and quantity, are exactly observed on the graduation of the bottle. It may be mentioned in this connection that in this manner the capacity of the bladder can be ascertained in a most convenient way. If enough fluid is injected into the bladder the stop-cock is turned another 90 degrees with the thumb of the left hand, and the solution escapes from the bladder into the waste jar. This procedure can be repeated *ad libitum*.

I have given the description of the construction and technic of this little device for irrigation of the bladder in this detailed form, in order to prove that this apparatus can be reliably sterilized, is not likely to get out of order, permits the aseptic irrigation of the bladder under exact control of the flow, and can be used without the help of an assistant, practically without any preparations. It is obvious that the apparatus is cheap and can be put together by every physician. In an up-to-date office building, in which every room is supplied with compressed air, an appropriate hose attachment such as that commonly used by laryngologists for sprays can be connected directly with the bottle.