is generally conceded that the only method worthy of consideration is that in which heat is employed.

It is a well-recognised fact that catgut prepared by chemical process, although fairly safe, is to some degree uncertain. The simplest method, and the method least likely to weaken the catgut, is that in which chemicals are used, but, on the contrary, the possibility of ineffectual sterilisation compromises any such routine.

The preparation of catgut by heat entails the greatest exactness in technique. The first requisite is the removal of all moisture from the catgut. If it is not absolutely dry, any exposure to moist heat, no matter in what medium, will result in its destruction. Until the hygroscopic character of the catgut and the effect of moist heat upon it were known, any attempt to sterilise it by this method resulted in failure. The media used by us are cumol and liquid alboline, both of which boil at about the same temperature, 325° F. The catgut is put up in coils five feet in length, about fifty coils being put in a bundle, done up in two thicknesses of ordinary gauze. The catgut is dried in an oven at a temperature of 180° F. for two or three hours. The cumol or liquid alboline is heated in an agate vessel or in an old-fashioned stone kettle to a temperature of 175° F. by means of placing the kettle in a pan containing sand and heating over a gas flame. Any deviation from this is likely to result in failure. The object of placing the catgut in the oven is to dry off the moisture, and the purpose of heating the medium to a temperature of 175° F. is to further remove any moisture. Moisture, no matter how trivial in amount, interferes with the tensile strength of the catgut. The catgut must be taken from the oven with forceps free from moisture and placed directly into the cumol or alboline. The catgut must not come in contact with the bottom of the vessel. Several layers of gauze are put into the solution and the catgut is placed on the gauze. The temperature is gradually raised to 300° F., which usually takes about two hours; then the flame is turned off and the temperature allowed to cool to 200° F. The liquid is then poured off and the vessel is allowed to remain in the hot sand for the purpose of freeing the catgut of the oil product.

The care of the sterilised product need not be dwelt upon particularly. Small test tubes capable of holding two coils meet ordinary requirements very well, and they entail no particular waste. Non-absorbent cotton is placed in the bottom of the tubes, and is used, tightly packed, to close the opening. The tubes are wrapped in sterile towels, and are carefully put away in glass jars with tightly fitting tops.

The catgut prepared in this way is pliable, its tensile strength is unimpaired, and it is free from bacteria.

Method II.

Catgut is soaked in ether twenty-four hours and is occasionally shaken. The ether is poured off and the catgut is covered with chromic fluid, for a varying length of time, according to the grade of the catgut. No. O requires one hour; No. 1, two hours, &c. At the end of the period necessary the chromic fluid is poured off and the catgut is dried. After drying, the catgut is boiled in alboline for twenty minutes on three successive days. The alboline is then poured off and the catgut is covered with chloroform and biniodide solution, the procedure being the same as it is in the preparation of plain catgut.

For use in many operating rooms throughout the country, catgut is purchased in tubes. These cannot be sterilised on the outside by boiling, and they are submerged in a 1-500 solution of bichloride in large glass jars, removed with sterile forceps, and wiped off with sterile gauze before breaking. Some surgeons object to this method on the ground that a certain amount of the bichloride solution comes in contact with the fingers of the nurse, who is surgically clean and who handles the sutures, and that a slight amount of the disinfectant, which is carried to the tissues, may cause a necrosis at the point where the stitches are taken. For this reason many surgeons insist upon the use of prepared catgut that is put in tubes, which can be boiled, because they feel that heat is the only safe method for the complete destruction of bacteria.

As this objection is simply an expression of a preference based on the belief of certain surgeons, and as both methods are being used with considerable success, operating-room supervisors will be guided largely by the opinions of their surgeons in regard to the preparation of catgut, whether they depend entirely upon a prepared product which is put up ready for use, or upon their own method of sterilisation.

OUR PRIZE COMPETITION.

We regret to be unable to award a prize in our prize competition this week, no paper of a sufficiently high standard having been sent in to merit its award.

previous page next page