

My Experience with Catgut in Abdominal Surgery.

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AMERICAN gynæcologists use more silk than catgut for sutures and ligatures, probably because they have too often put their faith in the prepared catguts of the market.

Catgut is peerless as a material for sutures and ligatures, but, of course, we are to know something about the particular sort that is to be used for our trusting patient—otherwise we expose a weak point for our critics.

Silk? silver wire? silkworm gut? are, in my opinion, inferior to catgut. Kangaroo tendon is good, and also hard to get. As a general surgeon I have used nothing whatever for any suture or ligature excepting catgut for nearly three years past, save for the purpose of wiring bones; and among my cases there are a fair number belonging to the province of gynæcology. The list of abdominal operations is hereby appended, and it includes all the laparotomies in which I have used catgut to date of writing. There are many ways of preparing catgut satisfactorily, but my favorite plan is similar to Kocher's. I buy the bunches of one metre length catgut, raw and unprepared, which are found in the dealers' shops. The sizes are 5, 7 and 9. These are placed in oil of juniper *berry* for a few days, for the purpose of dissolving out fixed oil and killing micro-organisms. Catgut can remain in

this oil of juniper berry for many months without deteriorating. On removing the bunches of catgut from the essential oil they are placed in large-mouthed bottles of 95 per cent. alcohol, to which is added bichloride of mercury in the proportion of four grains to the pint. The catgut is taken out of the alcohol as needed at the operating table. It will remain strong and firm in the alcohol for months and probably for years without becoming weak. I use the one metre length bunches, because that is for me the most convenient shape.

Quot homines tot sententiæ.

The No. 9 catgut prepared in this way will be absorbed in about six days. I use it for ligating all bloodvessels smaller than the radial artery, for intestinal sutures, and for skin sutures where there is not much tension. The No. 7 catgut will be absorbed in about twelve days. I use it for ligating the largest bloodvessels, for skin sutures, for peritoneal sutures, for general intra-abdominal ligating, and for suturing the wounds made for repair of the cervix and vagina. The No. 5 catgut I use in only one place in abdominal work regularly, and that is for approximating the fibrous structures of the abdominal wall. It is absorbed in about eighteen days.

The above description of sutures

indicates that I put three tiers of sutures in the abdominal walls, as is customary. We are taught that like structures must be neatly and separately coapted in the reverse order in which they were divided if we are to expect good firm primary union and a secure scar.

If for any reason we wish a catgut that will resist the absorptive powers of the patient for a longer time than Kocher's lasts, take some of the bunches of prepared catgut out of the alcohol and put them in a 5 per cent. watery solution of carbolic acid, to which has been added bichromate of potash in the proportion of fifteen grains to the pint. Leave the catgut in this solution for forty-eight hours and then put it back in the alcohol again. After this treatment it will resist absorption nearly twice as long as before.

What could be more simple or more satisfactory than the above-described methods of preparing catgut? And now for a word of warning. If we have purchased any of the raw catgut that manufacturers have been at great

pains to make smooth and pretty, it should be rejected. It has been sandpapered, probably, and the rough edges that have thus been taken off have narrowed the original ribbon that was twisted just so much, and we cannot tell how long the thin part is going to hold out in the tissues.

If we buy any of the elegantly prepared bottles of catgut in the market we do not know who was responsible for the sterilization of the preparation, and many of the various antiseptic media in which the catgut is put have a tendency to weaken it so that it snaps when an artery is being ligated, or disintegrates ahead of time in the tissues.

Every suture and ligature used in the cases in the appended list was of catgut, and almost all were prepared by myself according to Kocher's method, already described. A few of the sutures were chromated, and I think it well for the surgeon to use the chromated gut frequently, until by experience he has learned how to use the more quickly absorbed Kocher's gut.