qualified for registration any certificate of competency or other document so framed as to bear colourable resemblance in appearance or phraseology to a diploma conveying a right to act as a medical practitioner is a proceeding which directly contravenes the spirit of the Medical Acts and is accordingly liable to be visited with the condemnation of the Council."

The Council of the Society has already taken steps with the view of removing all causes of offence, now for the first time specified, from its certificate. This it would have done in the first instance had it received the necessary information. In doing so it by no means acknowledges that such causes of offence are well founded.

AN ANALYSIS OF THE CASES OPERATED UPON WITH THE MURPHY BUTTON UP TO DATE.

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A SUFFICIENT time has now elapsed to warrant a complete report of the cases operated on by means of the button and to justify us in drawing conclusions as to the field of its usefulness. The advantages and disadvantages of the device were at first theoretical; they were later sustained or controverted by the results in experiments and in a small number of cases; finally, we have now a very large number of cases from which to draw conclusions, and a sufficient number, I believe, to enable us to make valuable deductions for our guidance in the future. We will consider the cases in groups, and we will pay particular attention to the fatal cases, and endeavour to determine the cause of the fatality—whether it was a result (a) of the disease itself; (b) of the general condition produced by the disease; (c) of the operation; (d) of failure in obtaining a perfect result at the seat of approximation; (e) of a sequel of the operation; or (f) of intercurrent causes. With this general plan as a guide we will take up the subject as follows.

GASTRO-ENTEROSTOMY FOR MALIGNANT DISEASE BY LATERAL APPROXIMATION.

Of this variety we had 27 cases with 9 deaths. In the first fatal case the patient had suffered from severe hæmorrhage for four weeks preceding the operation, and it was hoped that by performing a gastro-enterostomy a contraction of the stomach would take place, and possibly hæmostasis. The operation was performed in seven minutes, but the bleeding continued as before and ended fatally four days later. The necropsy showed a perfect approximation. In the second fatal case the patient died of exhaustion forty-eight hours after the operation. A perfect approximation was found. In the third fatal case the patient was very much emaciated and depressed before operation and died twelve hours after. The necropsy showed a perfect approximation. The fourth death occurred from exhaustion in twelve hours. The fifth death was in a case in which the smallest-size button was used, as the operator had no other at the time. The button was so small it was impossible for it to hold a sufficient amount of the tissue to retain the margin of a thick wall, as of the stomach, within its grasp; the wall slipped away from the clasp of the button, and the contents escaped into the peritoneal cavity and caused death. The smallest-size button should never be used in any operation on the stomach. The sixth death occurred from circumscribed peritonitis on the third day. On post-mortem examination the approximation was perfect, and in the stomach was found a large ulcer which was probably the source of the infection. There was also cancer of the pancreas, liver, and other organs, all of which contributed to lessen the resistance of the tissues against infection. In the seventh death the patient died of exhaustion four days after operation. There was perfect approximation, no infection, and the button was still in position. In the eighth fatal case the patient died on the seventh day from general suppurative peritonitis. The necropsy showed perfect approximation and the button still in position; the cause of the peritonitis was not given. The ninth death was from septic peritonitis. The button was not pressed tight enough, and one edge of the stomach had slipped away. It will be noticed that four of the nine deaths were from exhaustion, two from imperfect operation,

and three from peritonitis from infection at the time of operation. Are we justified in operating in these extremely emaciated, cachectic patients with cancer of the pylorus? The patients as a rule survive the operation but a very short period of time, when they succumb to the marasmus of the disease, and not to the effects of obstruction of the pylorus. It is my opinion that patients who are not in a condition to stand a pylorectomy should not be operated on. The relief obtained, even where gastro-enterostomy is successful, is so limited that it does not justify the danger and discomfort produced by the operation, notwithstanding that the operation can be performed with the button in from five to seven minutes. These patients suffer much more from shock in operation than those with non-malignant disease, and the regenerative power of the tissues in a patient with malignant disease is much impaired. Therefore in this class of cases I scarify with the point of a needle the surfaces of the peritoneum of the stomach and intestinal wall where they are brought in contact; this hastens the primary adhesions and increases the rapidity of definitive union. A few interrupted sutures half an inch from the button between the intestine and stomach may be necessary where there is great traction of the coil of intestine approximated, but I have so far not found a case in which I considered it indicated. I prefer the Von Hacker position, though the Wölfler may be used. I believe with Dr. Willy Meyer that the former favours the passage of the button into the intestine. If the cancer involves but a small portion of the stomach in the neighbourhood of the pylorus the most satisfactory operation in its ultimate result is a division of the duodenum two inches below the pylorus, closing the proximal end with a Czerny-Lambert suture and joining the distal end to the posterior wall of the stomach with the button. In non-malignant strictures of the pylorus this is the only operation that should be performed. Where the approximation has been made to the anterior wall of the stomach the button has dropped back into the stomach in four cases; in none of them did it give any unpleasant symptoms, and I believe it would have passed as soon as the stomach contracted to its normal size and the patient was up and about. I have not used the oblong button for this operation and do not consider it necessary, as the results so far prove that the opening made by the circular button is ample, and that the scar does not contract. The oblong button has, however, certain merits. It produces a larger opening; it is more easily inserted than the circular, and passes through the intestine with greater freedom as its diameter is only $\frac{5}{8}$ in. The only two cases in which it has been used are the following:—Case reported by Dr. Joseph D. Bryant of New York: "Diagnosis, faecal fistula of long standing. There had been several previous operations for its closure. Operation, May 9th, 1894. Lateral approximation of ileum to descending colon with oblong button (2½ in. in length); button was easily inserted. Convalescence was uneventful. Button passed on fifteenth day." Case reported by Dr. Willy Meyer of New York: "Male aged twenty-two years. Fistula in right inguinal region. History of appendicitis; abscess opened; faecal fistula followed. Laparotomy, May 31st, 1894. Chronic appendicitis; appendix embedded in dense adhesions, perforated; resection of appendix; loose tampon; appearance of fistula which baffled treatment. Aug. 16th, 1894, ileo-colostomy by Murphy's oblong button. Its two halves could be tied in with great ease and did not require a longer slit in the gut for insertion than the ordinary button. Recovery. Button voided without any difficulty on the tenth day."

CONCLUSIONS.

1. Gastro-enterostomy should never be performed on an extremely cachectic patient.
2. The Von Hacker position is preferable.
3. A supporting suture outside of the button is not necessary except for the relief of tension.
4. In non-malignant stricture of the pylorus the end of the duodenum should be united to posterior wall of the stomach.
5. Pylorectomy by the method described below should always be resorted to where possible.
6. The patient should receive liquid nourishment immediately after the effects of the anæsthetic pass away.

PYLORECTOMY.

Pylorectomy is always the most desirable operation for malignant stricture of the pylorus, as it is the only operation

that offers hope of prolonging the life of the patient for a considerable time. When it is successful the patient regains his usual vigour rapidly and is in good physical condition until the disease recurs. The period of immunity frequently extends over many months and occasionally years. By the use of the button the operation of pylorotomy is relieved of its greatest dangers—viz., shock and leakage at the seat of approximation. The operation is best performed in the following manner:—First, ligate the mesentery on the upper side of the stomach, pylorus, and duodenum as a broad pedicle with from three to four double ligatures and cut between. Second, ligate the mesentery on the under side in the same manner; the pylorus can then be lifted well up into the abdominal incision. Third, pack thoroughly around with gauze and place two clamps on the stomach, one above and the other below the place to be incised. Fourth, a circular incision is then made in the stomach, including the peritoneum and muscularis; this is pushed back half an inch and the mucous membrane cut off; the latter is rapidly closed with a continuous suture; the serosa and muscularis are then closed with a continuous Lembert. Two clamps are placed on the duodenum and it is excised. Fifth, one half of the button is then placed in the end of the duodenum and the other half in the posterior wall of the stomach, one inch from the line of suture, and pressed together. We had four operations of this kind reported, with three recoveries. In all of the latter the button passed on through the duodenum. The first case was that of Dr. A. H. Ferguson, operated on on July 25th, 1893. The patient is still living and in excellent health, having gained sixty pounds in weight. The second case was that of Dr. Willy Meyer's. The patient died several months after the operation. The third case died five days after operation. The patient was in an extremely emaciated condition, and though the operation lasted only forty minutes, he was in a critical state all the time until he died. The fourth case was reported by Dr. M. H. Everett, Lincoln, Nebraska. The patient, a male, aged thirty-five years, first complained of stomach trouble eleven years ago. He had never been free from pain since. Five years ago he commenced to vomit, and during the five years he had not passed a day without vomiting. He came under my charge in November, 1894. His stomach was very much distended and there was a tumour perceptible at the pylorus. An operation was performed on Dec. 18th, 1894. An incision in the median line four inches in length was made; the tumour was drawn out; there were no adhesions; the tumour was as large as a small turkey egg. The mesentery was ligated and divided. The stomach was incised one inch from the growth, and a Czerny-Lembert suture used; the duodenum was divided one inch from the growth; an incision in the posterior wall of the stomach was made and the duodenum joined to it with the button; certainly not five minutes were spent in making the anastomosis; the abdomen was closed without drainage. The temperature next day was 99° F. for a few hours, after which time it remained normal. The button was passed fourteen days after operation. A wonderful change is noticeable in the man. He has not vomited; his appetite is enormous; and at this day, twenty-two days after operation, he has gained twenty pounds. The tumour was found to be a fibroma.

CHOLECYSTDUODENOSTOMY.

The operation of cholecystduodenostomy by this method and the results are most satisfactory. We have 38 operations reported for cholelithiasis, with 37 recoveries and 1 death. The patient lived for seven days following the operation. There was continuous hæmorrhage from the laceration of the liver from the separated adhesions. A large quantity of blood was found in the peritoneal cavity post mortem; a perfect union existed between the bowel and the gall-bladder, and there was no peritonitis. These results were obtained by twenty-two different operators. In my first article on this subject I recommended the removal of only a sufficient number of gall-stones to allow of the insertion of the button. I early abandoned this method, as I saw that it was possible for calculi to remain in the diverticula of the gall-bladder after the button had passed. That this was well grounded was shown in a case referred to me by Dr. J. H. Hoelscher. Two years after the operation she was again attacked with colic in the region of the gall-bladder. A cholecystostomy was performed, and two large calculi were found in a pocket at the upper end of the cystic duct. The gall-bladder from the fundus down to the calculi, a distance of two inches and a half, had contracted to a tube about the diameter of a lead pencil. The stones were crushed and removed. The

patient made an excellent recovery. This is the only case in which there was a recurrence of the symptoms after the operation, and supports the view advanced by me in my original article that the gall-bladder would contract to a tube, and that the opening between the gall-bladder and the intestine would become so small by the contraction of the gall-bladder that it would not admit fæces into the tract. We have had no case of infection of the liver or gall tracts reported as a result of the operation. Failure of union has not occurred in a single case. This is a most striking contrast in this particular to the results obtained with the suture. The theoretical objection expressed that the button might drop into the gall-bladder and be retained there has not been supported by a single case. The danger of hæmorrhage in patients suffering from cholæmia is very great; and the greatest precaution should be exercised in lacerating adhesions in this class of cases, as the hæmorrhage may continue for days and even weeks. The operation of cholecystenterostomy for malignant disease was very unsatisfactory, as there were eight performed with seven deaths. Two died from shock; one from twisting of the small intestine, producing a volvulus before making the approximation. In one case the gall-bladder was so friable from malignant disease that it tore when the sutures were inserted, and after the button was placed in position and the abdomen closed the friable wall gave way and peritonitis ensued. In all of the others the approximations were found perfect on post-mortem examination. While the mortality from the operation is great, not one of the deaths could have been attributed to the method. Still, they all tend to show that the operation for malignant disease is not a justifiable one; and in many of my recent exploratory operations, when I have found a large carcinoma in the pancreas, duct, or neck of the gall-bladder, I have abandoned the operation, and all of the patients have survived the exploration. Cholecystenterostomy is contraindicated in gangrene of the gall-bladder. These cases should be opened and drained externally, and the peritoneum thoroughly protected by packing. The indications for the operation of cholecystenterostomy are: (1) obstruction to the common duct; (2) obstruction to the cystic duct, where cholecystectomy is impracticable; (3) chronic cholecystitis, with thickening of the wall of the gall-bladder; (4) fistula of the gall-bladder where the patient is emaciated from the loss of bile; and (5) carcinoma of head of the pancreas in its early stage.

INTESTINAL APPROXIMATION.

It is in this field that the button has been of the greatest practical value. The pathological conditions demanding its use in this class of cases greatly endanger the life of the patient. The cases may be well classified as follows:—(1) Resection of the bowel for gangrene: (a) for internal obstruction, and (b) for hernia; (2) resection of bowel for cure of fæcal fistula; (3) resection for malignant growths; (4) resection for perforations of intestine, both traumatic and pathological; and (5) resection of the rectum. Of the resections for gangrene of the bowel from internal obstruction we have 14 cases with 1 death. The patient was a child that had suffered from a four weeks' obstruction; she was so weak and emaciated when operated upon that she never rallied, and died in twenty-four hours. Of the resections for gangrenous hernia there were 12 cases with 2 deaths. The first case died forty-eight hours after an operation for strangulated umbilical hernia which had perforated into the abdomen; general septic peritonitis existed at the time of the operation. The necropsy showed continuation of peritonitis, perfect approximation, and the button in position. The second case was a very interesting one, the patient having had a congenital hydrocele of the testicle with an inguinal hernia in a separate sac. The sac of the hydrocele connected with the sac of the hernia at its neck. The patient after a severe exertion found his hernia down and painful. It was reduced in the usual manner, but the pain and vomiting continued. Six days after the obstruction occurred he was brought to me by Dr. Hanna of Winfield, Iowa, who had seen him only a few hours before and made the diagnosis. I found the hernial sac free and empty, but a Littré involving four-fifths of the circumference of the bowel was strangulated in the small opening of the hydrocele sac. This knuckle had perforated into the sac, and the lining of the sac was gangrenous from the infection. A resection of five inches of intestine was made with an end-to-end approximation, the approximated intestine returned, and the abdomen dressed open. The patient's bowels moved six times within the next eight hours. He did not vomit, but his pulse increased in

OPERATIONS ON THE INTESTINES WITH THE MURPHY BUTTON.

TABLE I.—RESECTION, END-TO-END APPROXIMATION.

No.	Date.	Operator.	Diagnosis.	Operation.	Recovery. Death.	Remarks.
1	Dec. 8, '92	Walker	Strangulated hernia	Resection of intestine, 4 in.	1—	First end-to-end approximation by button Oct. 21, 1893. Patient in perfect health.
2	April 3, '93	Andrews, E. W.	Femoral hernia, gangrene	Resection of intestine, 18 in.	1—	Nov. 21, patient in perfect health.
3	June 5, '93	Murphy	Intestinal strangulation	Resection of intestine, 2 in.	1—	Time for approximation five minutes and a half.
4	July 10, '93	Murphy	Umbilical hernia, gangrene, peritonitis	Resection of intestine, 5 in.	1—	Forty-eight hours' continued peritonitis; perfect approximation.
5	Oct. 17, '93	Ruth	Tumour of cæcum	Resection of cæcum and colon, 2 in.	1—	Nov. 15, excellent health; obstruction six months; child six years.
6	Nov. 12, '93	Bouffler	Femoral hernia, five days' obstruction	Resection of intestine, 4 in.	1—	Time four minutes and a half.
7	March 25, '93	Sutton	Closure of artificial anus without resection.	Lateral anastomosis	1—	Aug. 20, excellent health.
8	Sept. 10, '93	Murphy	Fæcal fistula	Lateral anastomosis without resection	1—	Time six minutes; Oct. 24, well; fistula closed.
9	'93	Rogers	Inguinal hernia, gangrene	Resection of intestine, 10 in.	1—	Button passed seventh day.
10	Sept. 23, '93	Murphy	Fæcal fistula	Lateral anastomosis	1—	Time seven minutes.
11	July, '93	McCall	Fæcal fistula, gangrene	Lateral anastomosis	1—	—
12	Oct., '93	Marcy	Cancer of rectum	Resection of rectum, 4 in.	1—	Discharged twentieth day.
13	Nov. 16, '93	Cordier, A. H.	Cicatricial band of ileum	Entero-enterostomy	1—	—
14	July 8, '93	Bacon	Stricture of rectum	Bacon's operation on rectum	1—	May 31st, good calibre; neither pain nor discharge; rectum soft and pliable.
15	Jan. 14, '93	Murphy	Annular stricture of rectum	Application of button	1—	—
16	Sept., '93	Beck, C.	Carcinoma of pylorus	Maydl's operation	1—	Died subsequently from cancer; post mortem perfect union where button was used; no peritoneal adhesion.
17	Dec. 11, '93	Ferguson	Cancer of cæcum	Resection of cæcum	1—	—
18	Feb., '93	Beck, C.	Fæcal fistula	Duod-jejunosomy	1—	Button passed twentieth day.
19	Jan. 14, '94	Ferguson	Fæcal fistula	Resection of ileum	1—	Button passed sixteenth day.
20	Jan. 30, '93	Keen, W. W.	Carcinoma of hepatic flexure of colon	Ileo-colostomy	1—	Death forty-seven days later; ulcer of ascending colon; perforation.
21	Feb. 3, '94	Price, J.	Sarcoma of sigmoid flexure	Resection, 6 in. of sigmoid	1—	Button passed ninth day.
22	Feb. 24, '94	Meyer, W.	Carcinoma of pylorus	Pylorotomy	1—	Button voided twenty-first day.
23	March 3, '94	Meyer, W.	Sarcoma of ileum	Resection, 15 in. of ileum	1—	—
24	Jan. 2, '94	Dodge, W. T.	Fæcal fistula	Resection, 3 in. of ileum	1—	Button voided eighth day.
25	Feb. 16, '94	Dodge, W. T.	Fæcal fistula	Resection, 3 in. of colon	1—	Button passed eighth day.
26	May, '94	Dodge, W. T.	Ileum adherent to ovarian cyst	Resection of ileum	1—	Patient died eleven days later from complication; union perfect; button found in rectum.
27	*Jan. 15, '94	Lane, W. A.	Sarcoma of meso-sigmoid	Resection, 12 in. of colon	1—	Button voided on eighth day.
28	May 9, '94	Bryant, J. D.	Fæcal fistula (had five previous operations)	Ileo-colostomy	1—	Oblong button used for first time; passed on fifteenth day.
29	May 14, '94	Shrady, G. F.	Fæcal fistula	Lateral approximation	1—	—
30	Feb. 12, '94	McBurney, C.	Tumour of cæcum	Ileo-colostomy	1—	Infection occurred; see details in history.
31	April 27, '94	Abbe	Carcinoma of colon	Lateral anastomosis	1—	Growth to be resected.
32	Dec. 12, '93	McBurney & Murphy	Fæcal fistula	Lateral approximation	1—	Button passed on ninth day through fistula.
33	April 1, '94	Davis	Adherent ovarian cyst	Entero-enterostomy	1—	—
34	Feb. 28, '94	McLaren	Strangulated hernia	Entero-enterostomy	1—	Six inches of sigmoid removed.
35	Nov. 11, '93	Ricketts	Carcinoma of ileum, obstruction	Resection, end to end	1—	Time for operation ten minutes; death from shock in ten hours.
36	Jan. 29, '94	Middleton, W. D.	Carcinoma of rectum	Resection of upper part of rectum	1—	Resection, 2½ in.; completely cured; button passed on twelfth day.
37	Feb. 27, '94	Ferguson, A. H.	Cancer of cæcum	Extirpation of cæcum, 14 in. of bowel	1—	Death four weeks later, diarrhoea; necropsy—perfect approximation; opening large as button.
38	Feb. 27, '94	Stewart, W. W.	Gangrenous hernia	Resection, 10 in. small	1—	Patient in extreme condition; button passed thirteenth day; rapid convalescence.
39	March, '94	Reed, Chas. A. L.	Carcinoma of cæcum	Resection of part of cæcum	1—	Button passed twenty-second day.
40	March, '94	Copeland	—	Resection	1—	—
41	April 2, '94	Newton	Neoplasm of mesentery	Resection, end to end	1—	Button passed fourteenth day; patient small child.
42	April 7, '94	Dennis	Strangulated hernia	Resection of ileum	1—	Button passed twenty-second day; wound suppurated; fæcal fistula closed twenty-seventh day.
43	May 11, '94	Outerbridge	Carcinoma of transverse colon	Resection, end to end	1—	Time for operation one hour forty-five minutes; several inches of transverse colon resected.
44	May 12, '94	Meyer, W.	Intussusception, myxo-sarcoma	Resection of ileum, 3 in.	1—	Button passed eleventh day; perfect recovery.
45	June 1, '94	Cobb, J. O.	Syphilitic stricture	Anastomosis around stricture	1—	Died fourteen days after, pneumonia; anastomosis perfect.
46	June 4, '94	Murphy, J. B.	Fæcal fistula	Resection, end to end	1—	25 in. of small intestine removed. Opening made by button in previous operation dilated from 3½ to 5 in.
47	June 13, '94	Shimoneck, F.	Strangulated hernia	Resection, end anastomosis	1—	Button passed on eighteenth day.
48	June 15, '94	McCallum, J. L.	Strangulation of ileum	Resection, end to end	1—	12 inches of ileum resected.
49	June 16, '94	Meyer, W.	Intestinal obstruction, sarcoma, intussusception	Resect on. ascending colon, 12 in.	1—	Button passed eleventh day; discharged July 24th; died of marasmus Aug. 14th, 1894; necropsy, multiple sarcoma.
50	June 17, '94	Davis, F. A.	Penetrating wound of abdomen, laceration of intestine	Resection, end to end	1—	Patient never rallied from shock caused by injury, and died in three hours.
51	June 18, '94	Lilienthal	Carcinoma of transverse colon	Resection, 6 in. transverse colon	1—	Button used 1½ in. in diameter; passed eighteenth day without pain.
52	June 21, '94	Cochems, F. W.	Strangulated hernia	Resection, end to end	1—	Resection of 26 in.; button passed 180 hours after operation.

OPERATIONS ON THE INTESTINES WITH THE MURPHY BUTTON—*continued.*TABLE I.—RESECTION, END-TO-END APPROXIMATION—*continued.*

No.	Date.	Operator.	Diagnosis.	Operation.	Recovery.	Death.	Remarks.
53	June 23, '94	Meyer, W.	Carcinoma of rectum	Resection of rectum 8 in., Kraske Rehn	1	—	Death July 22; gangrene of lower end of sigmoid with faecal fistula above line of union; button accomplished purpose admirably.
54	June, '94	Cushing, W. E.	Malignant uterine myoma	Resection, 6 in. descending colon	1	—	Six inches of descending colon embedded in tumour resected with it.
55	Aug. 31, '94	Beck, C.	Carcinoma of cæcum	Resection of cæcum	1	—	Ends of intestine sutured; lateral anastomosis with button No. 3.
56	Sept. 9, '94	Jones, W. B.	Malignant stricture of sigmoid	Resection, 3 in. of sigmoid	—	1	Death five days after operation of peritonitis. No effort at union from infection.
57	Sept. 13, '94	Davis, T. A.	Faecal fistula	Resection, 4 in. of small intestine	1	—	Fistula from gangrenous hernia.
58	Sept. 14, '94	Peck, G.	Appendicitis—adhesions	Resection, 4 in. of small intestine	1	—	Obstruction, after operation for appendicitis, from adhesions.
59	Sept. 13, '94	Parkhill, C.	Faecal fistula (appendicitis)	Resection of ileum	1	—	End of ileum cut off from cæcum and attached higher up.
60	July 15, '94	Beaver, D.	Gangrenous hernia—fistula	Resection of 3 in.	1	—	Button passed on seventeenth day; temperature never reached 100° F.
61	Oct. 16, '94	Carpenter, J. G.	Intestinal obstruction	Resection, late anastomosis around stricture	1	—	Patient died on eighth day of angina pectoris; bowels moved four times in first twenty-four hours, and continued to move regularly.
62	Oct. 23, '94	Peck, G.	Intestinal obstruction	Resection, 6 in. of sigmoid	1	—	The contraction was produced by adhesions and a faecal fistula following an operation for pyosalpinx two years previously.
63	† Sept. 27, '94	Swain, P.	Intestinal obstruction	Resection, 5 in. of ileum	1	—	Obstruction existed a long time; proximate end 12 in.; distal contracted; button voided tenth day.
64	Oct. 25, '94	Mullins, C. D.	Intestinal obstruction, four months' standing	Anastomosis of ileum and colon	—	1	Child in extreme condition when operated on, having had four weeks of intestinal obstruction; death in twenty-four hours.
65	July 5, '94	Day, Donald D.	Intestinal stricture	Resection, 10 in.	1	—	Button voided in two months, producing no unpleasant symptoms; bowels moved regularly from time of operation.
66	Aug. 7, '94	Williams, R. R.	Double rupture of intestine, traumatic	Resection (double)	1	—	Both buttons voided eighteen days; patient died from extensive laceration of bladder.
67	July 11, '94	Abbe, R.	Ileo-colic anastomosis	Resection of caput coli	—	1	Patient died from obstruction by hardened faeces in button, notwithstanding ileostomy.
68	June 9, '94	Summers, J. E.	Intestinal obstruction (five days) by malignant growth of sigmoid	Anastomosis around tumour	—	1	Patient in extreme condition; resection not deemed advisable: anastomosis made in ten minutes; death from shock in twenty-five hours.
69	June 13, '94	Summers, J.	Tuberculosis of tube involving sigmoid	Removal of tube, resection of 5 in. of sigmoid	1	—	Tuberculosis involved 4 in. of sigmoid; perfect recovery.
70	June, '94	Hartmann	Ileo-cæcal inflammatory adhesions	Resection of cæcum	1	—	Resection of adherent ileum, cæcum, and colon.
71	June 1, '94	Abbe, R.	Cancer of descending colon.	Resection of growth and loop of intestines	—	1	A special large size button 1½ in. in diameter used; fitted intestine snugly; sloughing of bowel over button due, I fear, to tension and pressure of metal on account of large size and weight; button from former anastomosis in some cases found resting in loop close to growth; caused no inconvenience (April 27th, 1894); death from peritonitis.
72	Nov. 24, '94	Murphy, J. B.	Gangrenous femoral hernia, four days	Resection, 8 in. of ileum	1	—	A sac full of faeces; bowel ruptured; resection to sound tissue; drained; four bowel movements in six hours; perfect recovery.
73	July 19, '94	Bell, J.	Intestinal obstruction; perforation; adhesions	Resection, 4 in. of small intestine	1	—	Bowel ulcerated; perforation sutured; abdomen closed; recovery; tumour not removed.
74	Sept. 11, '94	Bell, J.	Intestinal obstruction; tumour involving bowel	Resection, 3 in. of sigmoid with tumour (cancer)	—	1	First button found free in splenic flexure above the obstruction, caused no trouble; sigmoid and tumour resected; time two hours; elastic tube used to prevent escape of faeces; operation difficult; death four days later; ends of bowels both gangrenous in whole circumference; perforation had taken place just beyond the border of the button; fatal peritonitis.
75	Oct. 18, '94	Bell, J.	Femoral hernia; gangrene	Resection, 11 in. of ileum	1	—	Sac contained effusive bloody serum; second resection necessary; abdomen closed and radical cure made; perfect recovery; primary union; button voided tenth day.
76	Nov. 1, '94	Murphy, J.	Ileus	Resection, 4 in. of small intestine	1	—	The intestine was bound down by a band of fibrous tissue; resection; button passed twenty-first day; recovery.
77	Oct. 15, '94	Ullmann	Cancer of cæcum	Resection, 26 in.	1	—	Patient made an excellent recovery and was exhibited before Medical Society six weeks after operation.
78	Dec. 18, '94	Everett, M. H.	Tumour of pylorus	Resection, 4 in. of stomach, 2½ in. duodenum	1	—	Button passed thirteen days after operation; uneventful recovery.
79	Dec. 30, '94	Murphy, J. B.	Strangulated inguinal hernia; six days	Resection, 5 in. of small intestine	—	1	Bowel gangrenous, perforated; congenital hydrocele sac full of pus; large quantity of serum in peritoneal cavity; bowels moved six times in first twenty-four hours; pulse increased continuously in frequency; delirium; no vomiting; death from sapræmia in thirty hours.
80	Nov. 7, '93	Griffith, J. D.	Rupture of intestine, septic peritonitis	Resection, 5 in.	—	1	Gas and faeces passed off freely through the bowel; death in twelve hours from sepsis and shock.
81	Dec. 18, '93	Griffith, J. D.	Stenosis, ileo-cæcal	Ileo-colostomy	1	—	Button passed twenty-first day.
82	Mar. 20, '94	Griffith, J. D.	Gunshot wound of large intestine	Resection	—	1	Death sixty hours after operation from obstruction by adhesions of intestines in a sharp angle at seat of operation, producing obstruction.
83	July 7, '94	Wiggins, F. W.	Double perforation, traumatic	Double anastomosis	—	1	Line of union in both places barely visible; pressure, atrophy almost complete at seat of adhesions, where adherent bowels protected line of union.
84	Aug. 16, '94	Meyer, W.	Faecal fistula	Ileo-colostomy	1	—	Oblong button used in this case, which passed on tenth day without pain or difficulty.
85	Sept. 30, '94	Wittwer, H. R.	Carcinoma of pylorus	Pylorotomy	—	1	Time consumed in operation forty minutes; death from exhaustion fifth day. Necropsy—peritoneum dry; no peritonitis; firm union of end of duodenum to posterior wall of stomach; button still in position; stomach very much contracted and full of cherry pips, lime beans, and grape seeds, many of them had passed through button.
86	Oct. 24, '94	Plettner, A.	Carcinoma of cæcum	Resection of cæcum	1	—	Button passed on fourteenth day without being noticed by patient; discharged on twenty-first day.
87	Oct., '94	Reeve, J. C.	Faecal fistula (hernia)	Lateral approximation	1	—	Button voided on fifteenth day; uneventful convalescence; rapid improvement in condition.
88	Sept. 20, '94	Bacon, M. W. & Cory, A. L.	Pyosalpinx tubes adherent	Resection of transverse colon, 8 in.	—	1	Button voided on eighth day; uneventful recovery.
89	July 1, '94	Davis, T. A.	Faecal fistula from hernia	Resection, 4 in.	1	—	Button voided on twentieth day; uneventful recovery.
90	Nov. 9, '94	Lee, E. H.	Gunshot wound of abdomen	Resection, double	—	1	Two large perforations of large mesenteric arteries, very profuse hæmorrhage; twelve perforations of bowel; two resections of about 12 in.; time of operation forty-seven minutes; patient exsanguinated. Necropsy—no peritonitis; perfect approximations; death thirty-six hours after operation from shock and hæmorrhage.
91	Jan. 18, '95	Fenger, C.	Obstruction of ileum after appendicitis	Anastomosis around obstruction	1	—	Adhesions so extensive could not be liberated, and lateral approximation considered best.

OPERATIONS ON THE INTESTINES WITH THE MURPHY BUTTON—continued.

TABLE II.—CHOLECYSTENTEROSTOMIES IN NON-MALIGNANT CASES.

No.	Date.	Operator.	Diagnosis.	Operation.	Recovery.	Death.	Remarks.
1	June 11, '92	Murphy, J. B.	Cholelithiasis	Cholecystoduodenostomy	1	—	—
2	Oct. 19, '92	Murphy, J. B.	Cholelithiasis	"	1	—	—
3	Nov. 23, '92	Murphy, J. B.	Cholelithiasis	"	1	—	—
4	Dec. 18, '92	Murphy, J. B.	Cholelithiasis	"	1	—	—
5	Jan. 31, '93	Lee	Cholelithiasis	"	1	—	—
6	Feb. 20, '93	Murphy, J. B.	Cholelithiasis	"	1	—	—
7	April 6, '93	Mayo	Obstruction of common duct	"	1	—	Patient seventy-one years old.
8	April 28, '93	Foster, W. D.	Gall-bladder fistula, obstruction of common duct	"	1	—	Fistula closed without operation.
9	May 6, '93	Murphy, J. B.	Cholelithiasis, occlusion of common duct	"	1	—	—
10	May 22, '93	Murphy, J. B.	Cholecystitis, impaction	"	1	—	—
11	June 1, '93	Fabrique	Hepatic colic, impaction	"	1	—	—
12	June 1, '93	Rogers	Closure of biliary fistula after cholecystotomy	"	1	—	Tenth day removed button through fistula.
13	July 18, '93	Hartmann	Cholelithiasis	"	1	—	—
14	Aug. 3, '93	Ferguson	Dropsy of gall-bladder	"	1	—	—
15	Sept. 20, '93	Lane, W. A.	Cholelithiasis	"	1	—	—
16	Oct. 20, '93	Luken	Cholelithiasis, obstruction of common duct	"	1	—	—
17	Oct. 26, '93	Hartinann	Cholelithiasis, obstruction of cystic duct	"	1	—	—
18	Nov. 7, '93	Murphy, J. B.	Cholelithiasis	"	1	—	—
19	Jan. 6, '94	Dunn	Cholelithiasis, obstruction of common duct	"	1	—	—
20	Feb. 13, '94	Murphy, J. B.	Cholelithiasis	"	1	—	Button passed eighteenth day with twenty-six stones. Two ¾-in. stones removed.
21	Feb. 24, '94	Abbe	Obstruction of common duct	"	1	—	—
22	Feb., '94	Barrows	Biliary fistulas	"	1	—	—
23	Oct. 16, '93	Ferguson, A. H.	Gall-stones	"	1	—	Excellent recovery.
24	Feb. 6, '94	Moffat, H.	Cholelithiasis after cholecystostomy	"	1	—	Previous cholecystostomy Nov., '93 14 calculi removed; symptom returned and cholecystenterostomy.
25	Feb. 22, '94	Ferguson, A. H.	Gall-stones	"	1	—	Excellent recovery.
26	March, '94	Bradley	Obstruction of common duct	"	1	—	Post mortem, profuse hemorrhage from liver where it had been torn during operation in freeing adhesions. Approximation perfect. Time of operation forty minutes. Death from exhaustion on seventh day.
27	March 23, '94	Ferguson, A. H.	Gall-stones	"	1	—	Excellent recovery.
28	April 17, '94	Mynter	Cholelithiasis, enlarged gall-bladder	"	1	—	Rapid recovery. Button passed twenty-second day—126 gall-stones.
29	May, '94	Bradley	Cholelithiasis, dilatation of gall-bladder	"	1	—	150 calculi. Button passed forty days after operation.
30	May 16, '94	Parkhill, C.	Gall-stones	"	1	—	Button passed twenty-second day. Convalescence uneventful.
31	July 26, '94	Burdick, G. G.	Cholelithiasis	"	1	—	Button passed fourteenth day. Large calculus allowed to remain choledochus.
32	Aug. 17, '94	Middleton, W. D.	Cholelithiasis, obstruction of choledochus	"	1	—	Gall-bladder found contracted to size of hickory nut; stone half that removed; obstruction due to fibroid degeneration along entire length of duct. Smallest size button used; rapid convalescence.
33	Sept. 8, '94	Murphy, J. B.	Cholelithiasis, obstruction of cystic duct	"	1	—	Time of operation twenty minutes. Difficulty in pressing calculus from duct back into bladder; 60 calculi removed.
34	Sept. 15, '94	Murphy, J. B.	Cholelithiasis, obstruction of cystic duct	"	1	—	Gall-stones as large as filberts impacted in cystic duct removed through gall-bladder, which was full of mucus; no bile; patient never had jaundice or colic. Time of removing calculus and making anastomosis six minutes; time of entire operation sixteen minutes.
35	Sept. 15, '94	Werder, X. O.	Cholelithiasis	Cholecystjejunostomy, closure of fistula	1	—	Button passed twenty-seventh day.
36	Nov., '94	Murphy, J. B.	Cholelithiasis, cholecystitis	Cholecystjejunostomy	1	—	A pure cholesterine calculus 5 in. in diameter removed. Button passed eighteenth day, after vomiting. Largest size button used.
37	—	{ Johnson, G. B. Long, J. W. }	Cholelithiasis, occlusion of common duct	Cholecystoduodenostomy	1	—	Gall-bladder firmly adhered to colon; Paquelin cautery used for hemorrhage; gall-stones removed; button passed nineteenth day with 6 stones. Uninterrupted recovery.
38	Nov. 11, '94	Morris, E. V. D.	Cholelithiasis, enlarged gall-bladder	Cholecystenterostomy	1	—	8 ounces of bile in gall-bladder; time thirty minutes; discharged from hospital in sixteen days; button voided in eleven days.
39	Jan. 14, '95	Lindsey, C.	Cholelithiasis, cholecystostomy, fistula	Cholecystenterostomy	1	—	Fistula continued discharging after cholecystostomy, Aug. 4th. Operated with button thirty minutes; uneventful convalescence.

OPERATIONS ON THE INTESTINES WITH THE MURPHY BUTTON—continued.
TABLE III.—CHOLECYSTENTEROSTOMIES IN MALIGNANT CASES.

No.	Date.	Operator.	Diagnosis.	Operation.	Recovery.	Death.	Remarks.
1	March, '93	Weir	Cancer of pancreas, liver, omentum, and gall-ducts	Cholecystenterostomy	—	1	Exhaustion; perfect approximation.
2	May, '93	Murphy, J. B.	Cancer of duodenum, pancreas, gall-ducts, and liver	Cholecystojejunostomy	—	1	Four days; ileus from volvulus; loop of jejunum twisted upon itself.
3	Feb. 2, '94	King, E. W.	Carcinoma of pancreas	Cholecystduodenostomy	—	1	No peritonitis; cholæmic hæmorrhage from all mucous surfaces of the body; death on fourth day.
4	March, '94	Mynter	Stenosis of common duct	Cholecystduodenostomy	—	1	No peritonitis; perfect adhesions; multiple carcinoma of pancreas and liver; death from prostration.
5	Sept. 24, '94	Hartley, F.	Malignant obstruction of common duct	Cholecystcolostomy	1	—	Button passed.
6	Jan., '93.	Dawbarn, R. H. M.	Cholelithiasis	Cholecystduodenostomy	—	1	It was found on introducing the suture that a carcinoma of the gall-bladder as well as gall-stones existed. When the sutures were introduced they tore through the cancerous wall as if it were wet paper; the smallest sized button was finally placed and the intestine approximated; death from septic peritonitis; necropsy showed the friable gall-bladder gave way from the clasp of the button. As far as I can learn this was the first time the button was used in New York. Dr. Dawbarn comments: "This case should not count against the method for the reasons mentioned; I have repeatedly demonstrated upon the cadaver that the operation is simplicity itself."
7	Feb. 27, '93	Griffith, J. D.	Cholelithiasis, cholæmia	Cholecystenterostomy	—	1	Patient had large hæmorrhagic spots all over body at time of operation; necropsy showed large extravasations throughout entire intestine track; no peritonitis; death from exhaustion.
8	March 13, '93	Griffith, J. D.	Cholelithiasis, impaction of stone in duct	Cholecystenterostomy	—	1	Operation greatly prolonged on account of adhesions; connexion to jejunum.

TABLE IV.—GANGRENE OF THE GALL-BLADDER.

1	March 15, '94	Long, J.	Gangrene of gall-bladder	Resection of gangrenous portion; cholecystenterostomy	—	1	Gall-bladder extensively gangrenous; contained 196 calculi; death in twenty-four hours; temperature reached 106°; sepsis.
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TABLE V.—GASTRO-ENTEROSTOMY.

1	Sept., '92	Murphy, J. B.	—	—	1	—	—
2	May, '93	Wiener	—	—	—	1	Four days; continued hæmorrhage from cannula; perfect union.
3	Aug. 9, '92	Murphy, J. B.	—	—	1	—	Seven minutes.
4	June 7, '94	Logan	—	—	1	—	—
5	Dec. 26, '92	Barbat	—	—†	1	—	Necropsy, forty-six days; perfect union; no contraction.
6	July 26, '92	Ferguson	—	Pylorectomy & gastro-duodenostomy	1	—	Time eighty minutes; Sept. 3 patient in good health.
7	March, '93	Schede	—	Gastro-enterostomy	1	—	Exhaustion; perfect approximation.
8	March, '93	Schede	—	Gastro-enterostomy	1	—	—
9	Feb. 2, '94	Ferrier, M.	—†	Gastro-enterostomy	1	—	Exhaustion, eighteen hours; perfect union.
10	July 21, '93	Middleton, W. D.	Stricture of pylorus	Gastro-enterostomy	1	—	Uneventful recovery; patient, up to date, has gained 42 pounds.
11	Dec., '93	Reed, Chas. A. L.	Carcinoma of pylorus	Gastro-enterostomy	1	—	Button passed nineteenth day; patient died four months later.
12	April 19, '94	Bressler	Obstruction of pylorus	Gastro-enterostomy	1	—	Death four weeks later; exhaustion; button found at splenic flexure of colon; retained by band of adhesion; no obstruction.
13	April 20, '94	Mynter, H.	Carcinoma of pylorus	Gastro-enterostomy	1	—	Vomiting ceased; patient left hospital in three weeks.
14	May 5, '94	Quenu	Epithelioma of stomach	Gastro-jejunostomy	1	—	Time of operation one hour fifty-five minutes; uneventful recovery; up in eighteen days; great increase in weight.
15	May, '94	Mynter, H.	Carcinoma of pylorus	Gastro-enterostomy	1	—	Smallest size button used, which could not possibly grasp tissue, and was never intended for that purpose; the wall of stomach slipped out of its embrace and allowed contents to escape; death ensued from exhaustion in twelve hours; a running suture is not necessary if proper sized button is used.
16	—, '94	Mynter, H.	Carcinoma of pylorus	Gastro-enterostomy	—	—	—
17	July, '94	Middleton, W. D.	Carcinoma of pylorus	Gastro-enterostomy	1	—	Exhaustion; largest button used; patient very weak and emaciated previously to operation from constant vomiting; death on third day; post mortem was revealed circumscribed peritonitis about site of operation; approximation perfect; stomach eroded by a great ulcer 3 inches in diameter; pancreas and other organs involved.
18	July 6, '94	Meyer, W.	Malignant stricture of pylorus	Gastro-enterostomy	1	—	Rapid recovery.
19	July 4, '94	Mayo, W. J.	Carcinoma of pylorus	Gastro-enterostomy	1	—	Death fourteen days after; broncho-pneumonia; necropsy; perfect union; button liberated; opening twice as large as button.
20	July 23, '94	Meyer, W.	Carcinoma of pylorus	Gastro-enterostomy	1	—	Patient still in hospital, doing well.
21	Sept. 13, '94	Lyman, C. B.	Carcinoma of pylorus	Gastro-enterostomy	—	1	Necropsy; very large carcinoma involving large portion of stomach and duodenum; no peritonitis; perfect approximation; button in position; death from exhaustion on fourth day.
22	Sept. 30, '94	Bryant, E. A.	Carcinoma of pylorus	Gastro-enterostomy	1	—	Button No. 3 (1 inch in diameter) used, which was voided on sixteenth day; no pain, fever, or vomiting after operation.
23	Sept. 26, '94	Jaboulay	Carcinoma of pylorus	Gastro-enterostomy	1	—	Button No. 3 used, which passed on fourteenth day; patient made an excellent recovery.
24	Aug. 23, '94	Case, C. E.	Carcinoma of pylorus	Gastro-jejunostomy	1	—	Necropsy; perfect union at seat of approximation; button still in position; death on seventh day from general suppurative peritonitis.
25	Oct. 12, '93	Griffith, J. D.	Carcinoma of pylorus and duodenum	Gastro-jejunostomy	1	—	Died two weeks later of exhaustion; patient seventy-two years, and very much emaciated.
26	Nov. 10, '93	Griffith, J. D.	Carcinoma of duodenum and liver	Gastro-jejunostomy	1	—	Button not pressed tight enough; one edge loose; death from septic peritonitis.
27	—, '94	Monod	Carcinoma of pylorus	Gastro-enterostomy	1	—	Button voided on twelfth day; Doyeur's procedure approximating intestine to posterior wall of stomach through perforation in transverse mesocolon.
28	Oct., '93	Buecking	Carcinoma of pylorus	Gastro-enterostomy	1	—	Time for operation sixteen minutes; patient died some time after of exhaustion; necropsy showed a perfect union.

† Dr. Murphy's table omits the diagnosis of these nine cases and the operation in the first five.

frequency, and he died thirty hours after the operation with all of the symptoms of auto-intoxication from the decomposing proteids that had been retained in the alimentary canal. There was no peritonitis. This case shows how important it is to act upon the symptoms of obstruction following an apparently complete reduction of a hernia. Of resections for faecal fistula with end-to-end approximation I have had nine cases reported, all of which recovered. Here the results show that the operation of resection with end-to-end approximation promises much more for the patient than the lateral approximation both for the immediate relief of the fistula and the permanent cure, and I now perform it in all cases in preference to the lateral. We have a total of 41 resections for non-malignant diseases, with 2 deaths. If to these be added the seven cases by Dr. Joseph Price, the details of which I have not received, with six recoveries, we have a total of 48 cases with 3 deaths. The first death was due to continued peritonitis and the second to auto-intoxication. In Dr. Price's case the death occurred from shock twelve hours after operation. The operation was the removal of an enormous universally adherent fibroid, also the excision of several inches of the bowel and a portion of one ureter. These results, obtained in the hands of many operators, certainly indicate that the question of operation in gangrenous hernia, internal obstruction, and faecal fistula is definitely settled—i.e., that resection with end-to-end approximation gives all that can be expected in the way of results.

Resection of the intestine for malignant disease with end-to-end approximation does not give us as good results as for non-malignant, as is the case with all operations for malignant disease. Still, when we review and analyse them, they are a great improvement over those obtained by other methods, and on the whole very satisfactory. There were 30 operations with 7 deaths. These include 8 resections of the caecum with one death. The causes of death in the malignant cases were as follows. In one case infection from without during operation; a perfect approximation was found at the necropsy. One case from shock ten hours after operation. One case from peritonitis. The specimen showed that there was no evidence of effort at union at the seat of approximation, and that the peritonitis was present from the time of operation. In one case which died from peritonitis a special large-size button (one inch and a half in diameter) was used; it fitted the intestine too tightly and produced a sloughing over the surface of the button with perforation. It is important that the button should fit easily in the intestine. One case had fatal peritonitis. The gangrene of both ends of the bowel was attributed to the length of time that the ends were compressed during the operation, and this conclusion is certainly supported by the fact that both ends were gangrenous and that the perforation occurred not at the seat of the pressure atrophy, but beyond the margin of the button. The intestinal clamps which I use on the intestine to prevent the escape of faeces and gas cannot produce this condition, as they do not compress the parallel artery of the bowel in the triangle made up by the division of the peritoneal surfaces of the mesentery and the wall of the bowel. This artery is the most important one for the nutrition of the bowel. In one case death occurred shortly after operation, but the cause was not reported. Finally, one case died from exhaustion. Resection for perforations of intestine, traumatic and pathological, with end-to-end approximation. The mortality from perforations, both from gunshot wounds and for perforating ulcers, has always been very great, not that the danger exists in the operation, but in the dangers of the pathological conditions themselves. Luche, in his collection of 322 cases, found that where the operation was performed within twelve hours after the perforation the mortality was 58.2 per cent.; later than twelve hours, 79.5 per cent. In bullet wounds of the abdomen the collapsed condition of the patient, the profuse haemorrhage, and the shock upon the nervous system all contribute very greatly to the mortality. We can estimate with great accuracy the position of the wound in the bowel by calculating the course of the bullet from the point of entrance to the position in which it is lodged. The bullet commonly passes either (1) from before backwards, in which case we have one or two perforations, or (2) transversely, then we have many perforations in close proximity—i.e., we may have as many as ten or twelve perforations within twenty inches of intestine. The operation should be a resection of the entire perforated coil, an end-to-end approximation, with drainage of the cavity. Where the perforations are a greater distance apart double resections may be made and two

buttons inserted as in a case reported by Dr. R. R. Williams of Manning, Iowa. The operations for pathological perforation of the intestinal tract are, as a rule, postponed too long. The profession has not yet extricated itself from the erroneous belief that the symptoms of collapse occur immediately after the perforation takes place. I would enunciate the following rule, and it should be impressed on the mind of every practitioner. The manifestations of perforation into the peritoneal cavity depend upon the character and quantity of material admitted into the cavity and the pathological changes produced thereby in the peritoneum. By this I mean that the symptoms are not the result of the perforation *per se*, but the result of the pathological changes produced by the result of the perforation.

LATERAL APPROXIMATION.

In cases of faecal fistula resection should be performed in preference to lateral apposition; the same is true in cases of malignant disease. In cases of extensive adhesions it may be impracticable to resect, and lateral approximation must be performed. Of lateral approximations 12 were reported: 5 for malignant disease, with 2 deaths, and 7 for simple obstruction; all recovered.

RESECTION OF THE RECTUM.

This operation has been simplified in its most trying mechanical part—i.e., the drawing down and approximating the upper to the lower segment, suturing it there, and still retaining the sphincter intact. We have reported 3 resections with recoveries, and 2 lateral approximations; that is approximations around the strictures with a pressure atrophy of the stricture, a method in which the button is used, devised and described by Dr. Bacon.¹ The operation of resection with removal of the sacrum (Kraske) and end-to-end approximation with the button was first done by Dr. Henry O. Marcy of Boston.² The method of procedure for resection of the rectum is as follows:—1. In order to do the operation without removing the coccyx or sacrum (Kraske), it is necessary to be able to reach the upper margin of the carcinoma with the index finger. 2. The sphincter should be dilated until it is completely paralysed; the cancer should be drawn down with forceps, and the rectum packed with gauze above. 3. A puckering string should be inserted in and out through the wall of the rectum half an inch below the carcinoma and left perfectly loose. 4. A circular incision is now made through the entire wall of the rectum, a quarter of an inch above the suture, and between it and the carcinoma. 5. The carcinoma and rectum are then liberated from the surrounding connective tissue, and drawn down as a cylinder into the lower segment of the rectum, and the separation continued until well above the carcinoma. 6. Half an inch above the carcinoma another puckering string is inserted, and a circular incision is made a quarter of an inch below this, cutting out the carcinoma. The gauze packing is then removed. The male portion of the button in which is threaded extremely heavy braided silk, double-drawn through the cylinder, is placed above, and the upper puckering string tied around the cylinder of the button and cut short. The stem is held with a small forceps. 7. Slide the female portion of the button over the string and press it up until it barely catches the end of the male cylinder, just sufficient to hold. 8. Make a small parallel incision in the lower segment of the rectum over the coccyx and half an inch below the first puckering string inserted. Through this pass a strand of iodoform gauze for drainage outside of the button. (This may be removed on the third or fourth day, if necessary.) 9. Draw the button well down and tie the first puckering string around the conjoined cylinders; cut the suture short and press the button together by making traction on the cord and pressing up from below. 10. Have the bowels loose before the operation and keep them loose after the operation until the button loosens itself or can be liberated by slight traction about the tenth day. The traction cords may be left in until the button is removed.

CONCLUSIONS.

1. The cicatrix produced with the button does not contract.
2. Size No. 1, $\frac{3}{4}$ in., or No. 2, $\frac{1}{2}$ in., should be used for cholecystenterostomy. I prefer No. 2.
3. End to end, side to side, and end to side of the small intestines should be made with button No. 3, $\frac{1}{2}$ in. in diameter.

¹ The New York Medical Record, Dec. 10th, 1892.

² Medical Record, June 26th, 1894.

4. End to end and side to side of large intestine should be made with button No. 4, 1 in. in diameter.

5. A special large size, 1½ in. in diameter, with a long male cylinder, may be used in some cases of resection of the rectum with advantage, but it should not be used unless it fits loosely.

6. In intestinal obstruction resection with end to end union gives better results than lateral approximation, and should always be performed when practicable. The same operation should always be done in gangrenous hernia. In faecal fistula the bowel should be resected and united end to end.

7. The patients should receive liquid nourishment as soon as the effect of the anæsthetic passes off. The bowels should be made to move as soon as possible after the operation and frequent evacuations kept up.

8. If the button does not pass in three or four weeks, the rectum should be examined, as it may rest just inside the sphincter.

9. There has been one case reported of occlusion of the button by faecal impaction in the cylinder. This can be easily avoided by a mild cathartic immediately after operation.

10. When returning the intestines to the abdomen, they should be placed in parallel lines, especially at the seat of approximation, to prevent sharp curves and obstruction. This occurred once with the button; many are reported following suture.

11. There is no danger from obstruction from the button, as not a single case has been reported. This proves that the deductions made by Choput of Paris from experiments on the cadaver are erroneous.

12. There is no danger of extension of the pressure atrophy beyond the line of pressure.

13. Primary adhesion may be hastened in malignant cases by abrading the peritoneum with a needle. It is unnecessary in non-malignant cases.

14. A supporting suture is never necessary to secure union, and should only be used to relieve tension when the viscera approximated are forced out of position.

15. The mucous membrane should be pushed down in the cup of the button before closing it; if redundant it should be trimmed off with the scissors. It should never be allowed to protrude between the edges of the button when the button is closed.

16. While the button is easily inserted, the pathological condition requiring the operation may demand the greatest surgical skill to secure a favourable result.

17. The following points regarding the construction of the button should be noted before using it. (a) The spring catches should hold firmly in all positions and should be made of a metal that will not be corroded by acids. (b) The elastic pressure cup should be on the male half of the button—never on the female. (c) The edges of the pressure surfaces should be very smooth—hemispherical in shape. (d) The spring under the pressure cup should not be too strong. (e) There have been defective buttons on the market. The following firms are at present manufacturing perfect buttons: J. J. Ryan and Co., Chicago; Truax Greene and Co., Chicago; Geo. Tiemann and Co., New York; W. F. Ford and Co., New York; Down Brothers, London, England; Sharp, Smith and Co., Chicago; Franz, Kratzmuller and Co., Chicago and Berlin.

18. If the button appears at the opening of the fistula after lateral approximation, do not try to force it through the opening—it is unsurgical; open the abdomen and (a) press the button back to the anastomotic opening and through the latter on down the intestine, and it will pass; or (b) make a longitudinal incision in the bowel and take it out.

THE LINCOLN COUNTY HOSPITAL.—From the 125th annual report of this hospital we learn that the number of patients admitted during the past year was 982, the largest ever admitted since the erection of the institution, and an increase of 142 as compared with those admitted the previous year. Including those remaining as in-patients at the beginning of the year, the total number treated was 1068; of these, 481 were cured, 91 relieved, 319 made out-patients, 32 died, 65 were discharged unrelieved, and 80 remained in hospital at the close of the year. The average length of residence in the hospital of each patient was five weeks, and the weekly cost of maintenance £1 2s. 2½d., as compared with £1 3s. 7d. the preceding year. The total number of out-patients was 4093.

MALIGNANT DISEASE OF THE COLON SIMULATING MOVABLE KIDNEY.

By HENRY MORRIS, M.A., M.B., F.R.C.S. ENG.,
SURGEON TO THE MIDDLESEX HOSPITAL.

CASE 1. *Malignant disease of the ascending colon mistaken for movable kidney and causing a large perinephric abscess.*—

On Oct. 20th, 1889, I was asked to see a married woman aged about forty-three years, who was suffering from a large swelling in the right lumbar region which had been treated as a movable kidney for some months previously. She had recently partly recovered from a severe attack of right-sided pleurisy, and had gone to Worthing for change of air; but a few days after her arrival at the seaside she became very ill with fever, rigors, and a rapidly developing swelling of great size in the right side of the abdomen. She was seen by Mr. Augustus H. Collet, who sent her home in an invalid carriage and communicated with me to take charge of the case. When I saw the patient she was in great distress with much fever, shivering, and considerable œdema of the right loin. The whole right side of the abdomen was distended and dull, and in front there could be readily felt a hard movable mass not unlike the kidney, but situated rather lower than the normal position of that organ. I was told that this somewhat reniform mass had been known to exist for several months, that it had been very movable, and had been regarded by a distinguished obstetric physician and by a general physician as a movable kidney. The large general swelling, with pain, sense of fulness, and œdema in the loin, had only made itself evident a few days. I regarded the case as one of perinephric abscess, and advised that it should be immediately opened, but suggested a physician seeing her before the operation, and Dr. Wilks was accordingly called into consultation. Dr. Wilks agreed that an incision should be made through the loin. This was done on the following day. A very large quantity of pus was evacuated, and two enormous pieces of sloughed cellular tissue were withdrawn. These, when spread out, were large enough to cover a full-sized joint dish. The movable mass was felt to be riding upon the front of this abscess, and sank back into the loin after the evacuation of the pus and when the patient was turned upon her back. The abscess soon healed; the patient immediately improved and became convalescent, but there was no appreciable change in the size of the movable mass. On Dec. 26th there was evidence of renewed inflammation in the loin; a fresh abscess formed and burst on the night of Dec. 29th, through the centre of the scar of the incision. The second abscess soon healed; but still the mass remained, and, after another consultation with Dr. Wilks on Jan. 25th, 1890, it was decided to examine this by laparotomy. On Jan. 28th Mr. Norton gave the anæsthetic, and with the assistance of Mr. Andrew Clark and Mr. Leopold Hudson I made an incision in the right semilunar line to explore the tumour. It proved to be a broad, annular, malignant growth in the wall of the ascending colon and cæcum, and though still movable at its anterior surface it was very tightly bound down by adhesions posteriorly, so that for this reason, as well as on account of the extent of the infiltration of the bowel, excision was not deemed advisable. There was no occasion to perform colotomy as there was no intestinal obstruction. On Feb. 5th all the sutures were removed, and the patient was convalescent from the exploratory operation. The subsequent symptoms were pain, occasional constipation, flatulence, and general weakness, and towards the end emaciation, but no intestinal obstruction throughout the illness. She died on August 13th, 1890, somewhat rapidly, and with symptoms suggestive of ulceration and perforation of the bowel.

CASE 2. *Cancer of descending colon simulating movable kidney in front of perinephric abscess.*—A gentleman forty-seven years of age was sent to me by Mr. Court of Staveley on Feb. 1st, 1887, with the following history. During the preceding six months the patient had suffered on and off with a pain in the left ilio-costal space. About four months ago he had an attack of colic, the pain being in front of the abdomen. He had always been temperate. He had lost about two stones in weight during the six months and had become weaker. For some time a hard smooth mass had been felt, on deep pressure, immediately below the ribs, associated with some tenderness on firm pressure on the loin. He had not been equal to