



CODEN [USA]: IAJPBB

ISSN: 2349-7750

**INDO AMERICAN JOURNAL OF  
PHARMACEUTICAL SCIENCES**<http://doi.org/10.5281/zenodo.2028454>Available online at: <http://www.iajps.com>

Research Article

**COMPARISON OF SINGLE WITH DOUBLE LAYER  
INTESTINAL ANASTOMOSIS**<sup>1</sup>Dr. Saira Mahmood, <sup>2</sup>Dr.Sana Ali, <sup>3</sup>Dr. Sidra Atta<sup>1</sup>Sargodha Medical College<sup>2</sup>Lahore General Hospital<sup>3</sup>Sargodha Medical College**Abstract**

**Objective:** In contrast to administration conclusion of single coating intermittent extra mucosal intestinal anatomists' with twice were coating conservative technique of intestinal anatomists.

**Materials and Method:** Our proportional learning research was completed at Surgical Department of Mayo Hospital, Lahore from January to November 2017. Mature patient experience compulsory and urgent situation minute or huge gut anatomists are integrated. Esophageal, gastric or billiard anatomists are expelled. 60 patients were alienated in 2 set of thirty patient each. In set-A single coating intermittent extra-mucosal anatomists was complete or in set-B twice coating anatomists. Major conclusion procedures were to contrast extent of process, post-operative escaped, or post-operative period of hospital lived.

**Results:** Anastigmatic escape happen in 2 (6.5%) patient of set A or in single (3.3%) patients of set B ( $p=0.55$ ). denote of time taken for anatomists was 18.30 minute in set A or 25.86 minute in set B ( $p=0.001$ ). denote of period of post functioning hospital reside was six days in set A and 5.86 days in set B ( $p=0.8$ ).

**Conclusions:** Single coating extra mucosal intestinal anatomists are similarly secure and can be complete in shorter instance than the twice coating intestinal anatomists.

**Keyword:** Anatomizes, Extra mucosal and Anastigmatic Escape.

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Please cite this article in press Saira Mahmood et al., *Comparison Of Single With Double Layer Intestinal Anastomosis.*, Indo Am. J. P. Sci, 2018; 05(12).

## INTRODUCTION:

The essential values of intestinal anastomoses were recognized more than hundred year before by Travers, Lembert or Halsted, or have while undergone slight medication. An anxious intestinal anastomosis is an intolerable iatrogenic danger [1 – 3]. The collapsing of stitch row or unsuitable anastomosis may effect into bleeding, escape, stenosis, diverticular configuration or eventually fecal fistula with solemn infected difficulty lead to passing away. The occurrence of intra-Peritoneal anastomotic escape different in the literature linking 0.5% or 30%, but is usually linking 2% or 5%. The noise curative of procedure of anastomosis depend mostly on anastomosis method, which is mainly significant determinant. Previously double-coating anastomosis use episodic silk sutures for an external reversed neuromuscular coating and an administration absorbable stitch for a transmutable internal coating has be average for main surgical circumstances. The merely substantial inadequacy of the two-coating method is that it is rather deadly and instance overwhelming to achieve. Freshly single coating intermittent extra mucosal anastomosis use artificial absorbable stitch substance has get fame as it need a short era and price lacking incur some extra danger of escape. The motivation for extra mucosal method is that the stitch includes the strongest component of the bowel wall (sub mucosa) while not incorporate the mucosa's with the danger of suggesting ischemia. Medical study has practically constantly established that lone coating anastomosis are connected with superior post effective revisit to ordinary bowel purpose (as deliberate by bowel sound, route of fates or 10 revisits to mouth ingestion). Study of anastomosis escape rate have not shown any difference between single and double layer anastomosis in this observe. Observance these two views in brain this learning was conducting to assess the security of single coating method.

## MATERIALS AND METHOD:

Our proportional learning research was completed at Surgical Department of Mayo Hospital, Lahore from January to November 2017. Mature patient undergo elective and urgent situation minute and huge gut anastomosis were integrated. Esophageal, gastric or billiard anastomosis and kids below the age of thirteen were expelled. 60 patients were alienated in dual set of thirty patient each. There was no partiality for single or double coating anastomosis or mutually technique was use instead. In set-A single coating intermittent extra-mucosal anastomosis was complete or in set B double coating anastomosis. The entire patient was function by similar set of surgeons or Suture substance was similar for mutually kind of

anastomosis i.e. (2/0 Vinyl on round body prickles). The entire patient established post-operative ceftriaxone or metronidazole. Post-operative escape was assessing clinically. Ultrasound abdomen or pelvis and X-ray abdomen stiff examination were complete in unsure cases merely. In case of escape, urgent situation examination or impermanent ileostomy was complete. Patient was discharge after their first bowel action; previously they are happening accept semisolid food. facts were penetrating or examine with geometric Package for communal Sciences (SPSS). Evocative figures i.e. resources with ordinary divergence were intended for incessant variables like patient's age, period of hospital lived, or instance taken for process. Frequencies beside with proportion were computed for attendance or nonattendance of escape. Danger ratio was intended along with their 95% Condense period for danger of escape in mutually the study set. t- Test was apply for association of means of period of the process or period of hospital stay connecting set A and set B. p value was calculate and a value of smaller than 0.05 was measured as statistically significant.

## RESULTS:

The entire numbers of sixty patient who were integrated in learning. In all these sixty patients, thirty-seven (61.8%) were gents or twenty-three (38.4%) were women. patient was linking the ages of 16- 74 years with signify age of 34.30 and ordinary difference of  $\pm 14.622$ . not obligatory operation was achieved on 17 (28.4 %) patient or urgent situation operation on forty-three (71.67 %). highest quantity of cases was operating for shocking injury, and lowest figure of cases for Meckler diverticulitis. Anastomosis heal adequately in fifty-seven patient whereas escape was seeing in three (5 %) patient out of whole sixty patient. Out of thirty patients in each set, escape was seeing in two patients (6.6 %) in cluster A (lone coating intermittent extra-mucosal Anastomosis) or in one patient (3.3 %) in set B (twice coating Anastomosis), dissimilarity organism statistically insignificant ( $p=0.55$ ). Signify of occasion taken to whole anastomosis was 18.30 minute (S.D  $\pm 1.368$ ) in set A (single coating episodic extra-mucosal Anastomosis) or 25.86 minute (S.D  $\pm 1.525$ ) in set B (twice coating Anastomosis), which is statistically significant variation ( $p=0.001$ ). Data indicate of period of post operational hospital stay was six days (S.D  $\pm 2.017$ ) in set A (single coating interrupted extra-mucosal Anastomosis) and 5.87 days (S.D  $\pm 2.224$ ) in group B (twice coating Anastomosis), which is statistically unimportant dissimilarity.

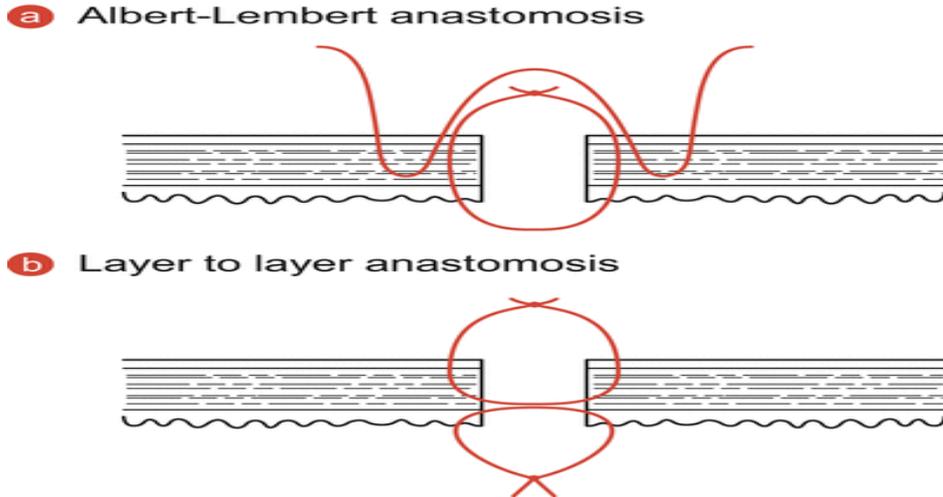
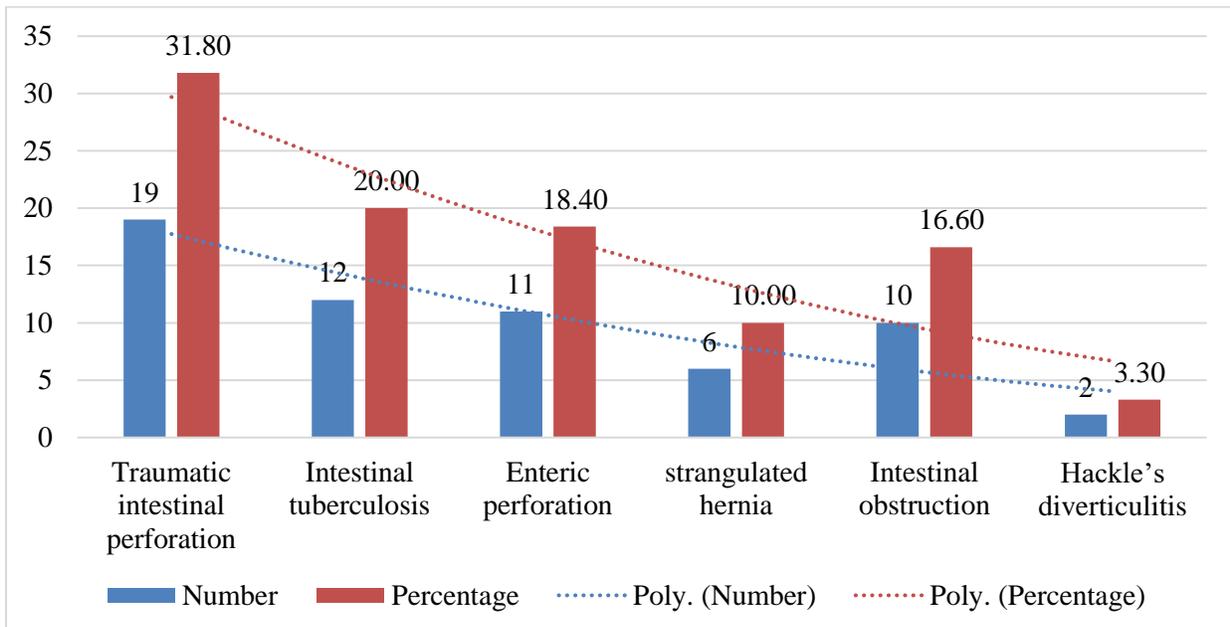


Figure: Technique of double- and single-layer anastomosis

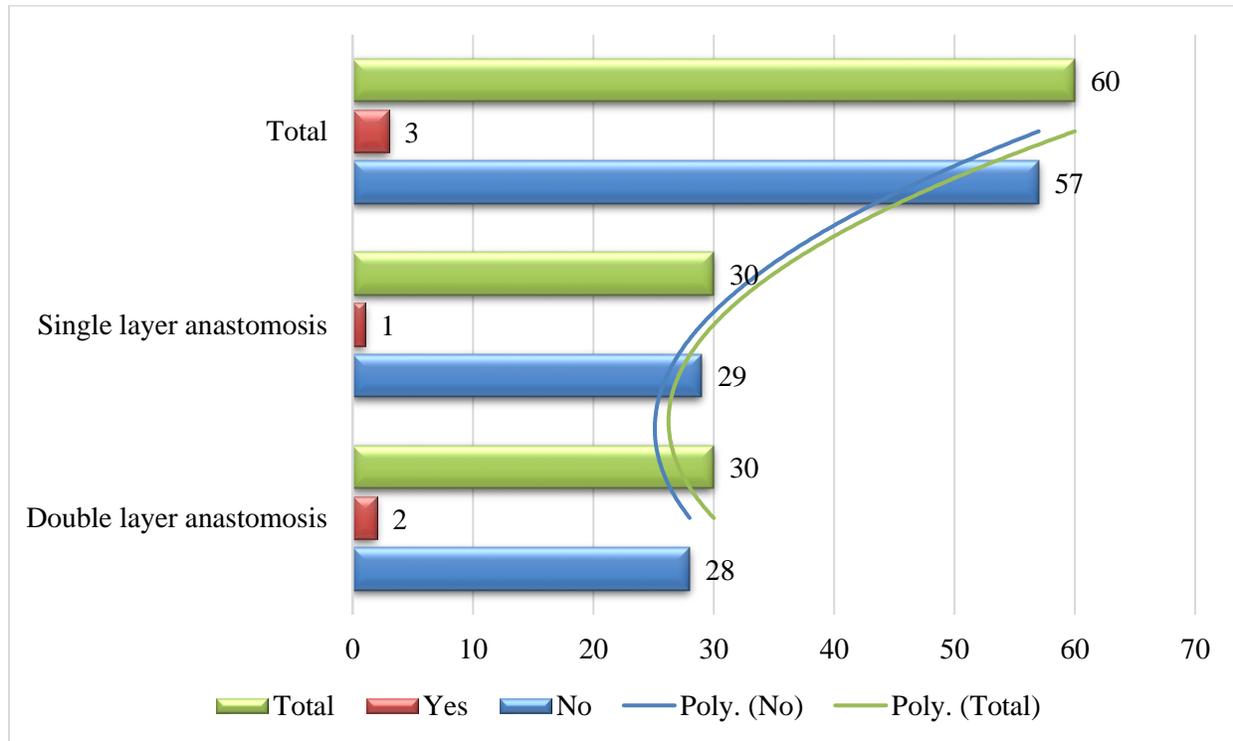
Table – I: Analysis of sixty patient undergoing intestinal anastomosis

Diagnosis	Number	Percentage
Traumatic intestinal perforation	19	31.80
Intestinal tuberculosis	12	20.00
Enteric perforation	11	18.40
strangulated hernia	6	10.00
Intestinal obstruction	10	16.60
Hackle’s diverticulitis	2	3.30
Total	60	100

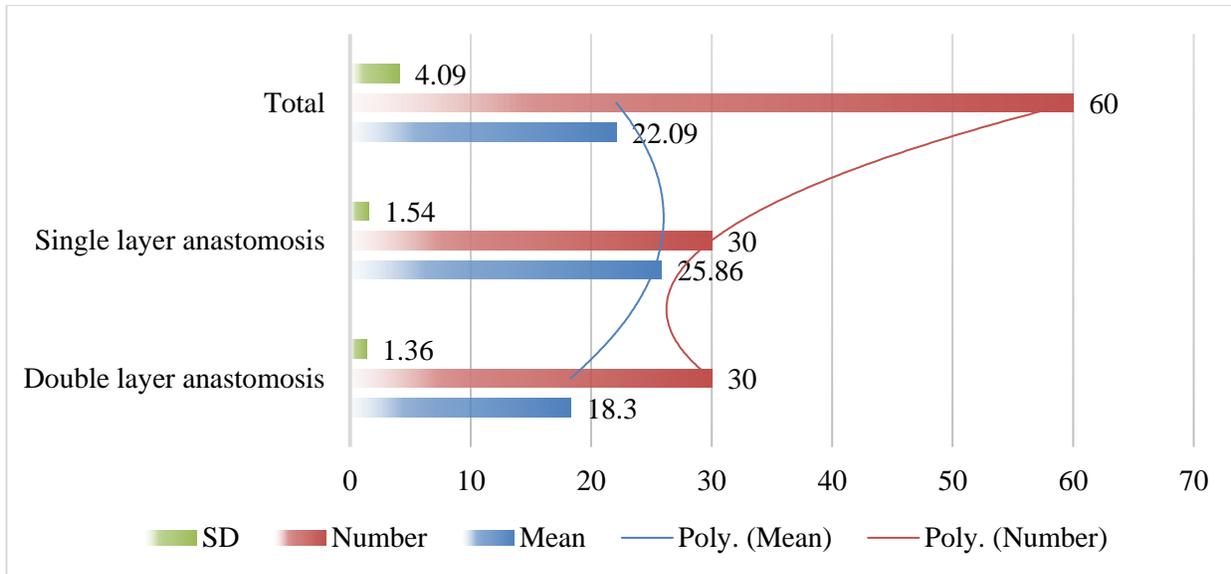


**Table – II:** Occurrence of leakage of anastomosis in sixty patients undergoing intestinal anastomosis

Group	No	Yes	Total
Double layer anastomosis	28	2	30
Single layer anastomosis	29	1	30
Total	57	3	60

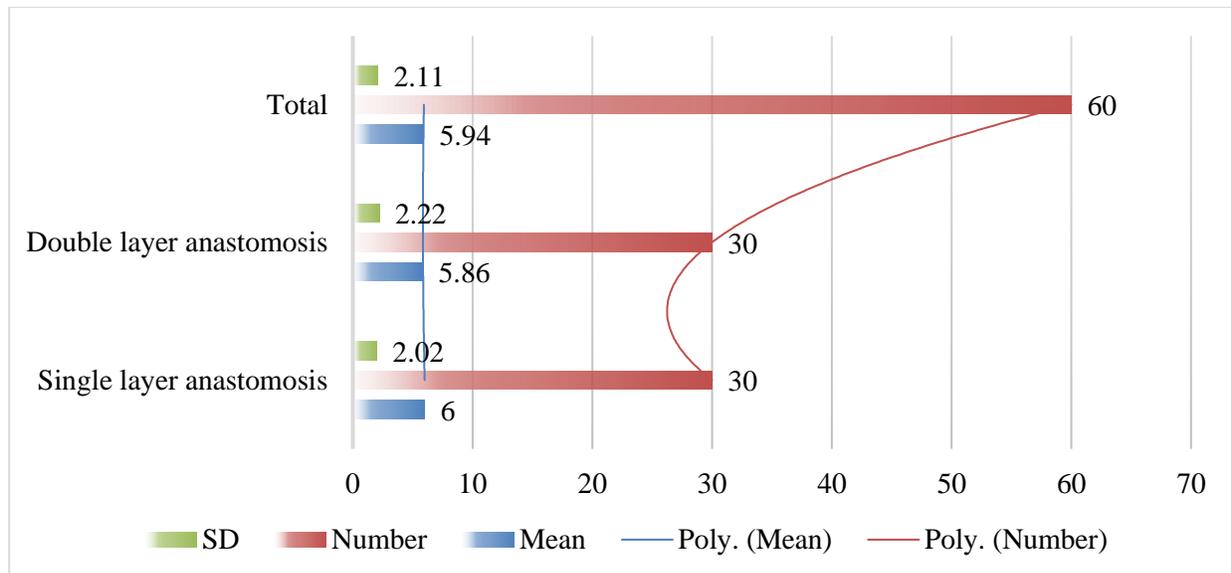
**Table – III:** Significance of time taken for intestinal anastomosis process in two set of patients

Group	Mean	Number	SD
Double layer anastomosis	18.3	30	1.36
Single layer anastomosis	25.86	30	1.54
Total	22.09	60	4.09



**Table – IV:** Significance of period of post-operative hospital stay in two set of patients

Group of patients	Mean	Number	SD
Single layer anastomosis	6	30	2.02
Double layer anastomosis	5.86	30	2.22
Total	5.94	60	2.11



**DISCUSSION:**

Intestinal barrier, peritonitis since a perforate bowel, abdominal disturbance or illness of bowel is ordinary surgical suggestion that should be treat operatively

therefore it is regularly essential to achieve resection and anastomosis of the intestine. Exact estimate of the bowel trimmings lacking anxiety and with a fine blood provided to both ends are evidently basic for

anastomosis curative. The procedure of intestinal anastigmatic curative imitates that of lesion curative elsewhere in the body in that it can be randomly alienated into a sensitive inflammation (lag) stage, a proliferative stage, or, lastly, an alter and maturation stage. The strongest module of the bowel wall, the sub mucosa, owe main of its might to the collagenous connective tissue it has. Collagen is hence the solitary main significant molecule for formative intestinal power. An integer of issue both limited or systemic significantly influence the 12 curatives of anastomosis in the gastrointestinal region. This issue can be classier into preoperative, functioning and postoperative. The effective issues which comprise a method of intestinal anatomists play a significant task in the curative of the procedure of 13intestinal anastomosis. Many methods have been used to fashion anastomosis. These methods can be separated into two type, hand sewn or clip anastomosis. Hand sewn method comprises solitary coating episodic or assorted twice coating method. single feature of intestinal suturing method that has stay contentious is the utilize of each single and double coating of sutures for anastomosis. Previously two-coating anastomosis use episodic silk sutures for an external upturned neuromuscular coating or an organization absorbable suture for a transmutable internal coating has been typical for main surgical circumstances. The idea of using the sub mucosal coating of the bowel to grasp stitches for a noise anastomosis was 1st establish by William Halsted in his journal 15 of 1887, but this explain effort in dogs, and here is no proof that Halsted still apply his to judgment expand the method for medical use, and the extra mucosal, appositional, intermittent sera sub mucosal anastomosis has become extensively use, with details escape rates in 17the section of two%. Mutually method has possible weakness that can intimidate the anastomosis. while the two-coating strength supply sufficient power firstly, they raise the inflammatory reply in the premature phase of curative due to the extra suture substance or the ischemia of the reversed tissues as it excludes huge quantity of tissue in the stitch row leading to anxiety or enlarge the possibility of escape and lumen contraction. The inflammatory response results in weaker anastomosis as further collagen is broken down in the inflammatory phase of curative. Lately solitary coating episodic extra mucosal anastomosis use artificial 18 absorbable suture substance has expanded recognition. Single coating Anastomosis get minor time to generate, source slightest injure to the sub-mucosal vascular plexus, plainly worry the gut lumen, further new quick vascularization and mucosal curative, raise the power of the anastomosis (as deliberate by the satisfied force) in the initial only some postoperative

existence are connected with better postoperative go back to usual bowel purpose (as deliberate by bowel sound, way of fates, and go back to oral 19, ingestion). The current learning assesses the protection of single or twice coating intestinal anastomosis. In this study, Anastomotic leakage occurred in 2 patients of group A, or in one patient of set B ( $P=0.55$ ). signify of period of post operational hospital lived was 6 days in set or 5.86 days in set B ( $p=0.8$ ). signify of time getting for anastomosis was 18.30 minute in set A or 25.86 minute in set B ( $p=0.001$ ). There is no statistically important dissimilarity in conditions of anastomotic escape and period of post operational hospital lived linking these 2 action options but here is significant dissimilarity in conditions of time getting for anastomosis. 1 learning was conduct by Muhammad Ayub et al, at section of surgical procedure, component 2 Dow University of Health Sciences and Civil Hospital, Karachi from 2005 to 2008, to assess the protection of single coating 21 episodic extra mucosal intestinal anastomosis. 42 single coating (set A) or 48 twice-coating (Group B) anastomosis be achieve. 2 escape (4.6%) happen in the single coating set or four (8.4%) in the two-coating set by generally death 0% in single coating set and 4.1% in twice coating set. extent of hospital lived was 8.2 days for single coating set as it was 10.5 days for twice coating set. Leslie A, Steele RJ, conduct learns at section of surgical procedure and Molecular Oncology, University of 22Dundee, Dundee, UK. The consequences of 553 single coating appositional zero sub mucosal anastomosis was evaluating with the consequences of 131 staple anastomosis approved out through the similar age use a round anatomizing stapler. One anastigmatic escape happens in the set of patients whose anastomosis was fashioned use the episodic zero sub mucosal method (0.2%) or 11 escapes happen in those who have a stapled anastomosis (8.4%). The death speed in every set was alike (2% or 2.3%, correspondingly). Rana Asrar et al, behavior a learn in Surgical component 4 of region Headquarter Hospital, Faisalabad, to assess the security and rate efficiency of single coating episodic intestinal anastomosis (set 1) in contrast with twice coating conservative technique of 23intestinal anastomosis (set 2). Standard instant for building of the single coating anastomosis was twenty minute or in twice coating was thirty-five minute ( $p<.001$ ) whereas standard period of lived was 168 hours or 216 hours in set one and two correspondingly. Escaped speed was 12% (twice) in set 2 while 6% in set one. Suture substance utilization was supplementary in two coating method or longer continue extra to that guide to extra hospital expenses on two coating method. They accomplished that anastomosis use a single coating episodic extra

mucosal technique is earlier to achieve, expenditure effectual, few expected to escape and as strong as two coating anastomoses. In our learning, like the studies of Muhammad Ayub, Leslie A or Rana Asrar favoritism single coating episodic extra-mucosal intestinal anastomosis. This show single coating anastomosis can be made in significantly decrease time and by alike speed of difficulty contrast with the two-coating method and can be included into a surgical preparation curriculum lacking a significant raise in problem.

### CONCLUSIONS:

Statistically here is no important dissimilarity in the danger of escaped and post effective hospital lived but there is significant dissimilarity in conditions of instant taken for the intestinal anatomist's process connecting two learn set. Single coating extra mucosal intestinal anatomists are evenly secure or can be executing in shorter time than the twice coating intestinal anastomosis.

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