A two-part silicone device for stoma control is presented. Methods for implantation and use are described. Initially used in five patients, it has proven safe and effective. [Key Words: Stoma control]

In the past 40 years great strides have been made by and on behalf of the colostomate to improve function following operation. The operative techniques of formation and, more importantly, the advances in technology of adhesives, collecting systems, and irrigating equipment have opened almost every and any professional and social activity to the colostomate; however, there are still a few problems. The most important of these is episodic incontinence of gas and small amounts of feces. Secondly, episodic peristomal skin irritation, both from leaking stool and from reaction to adhesives, can occur. Lastly, even for the individual who irrigates successfully, this is a time-consuming event on a daily or every other day basis.

It is understandable, therefore, that many attempts continue to be made to achieve stoma control. The latest of these, the magnetic stoma cap, seemed promising. Recent reports, however, demonstrate that there is considerable technical difficulty with implantation of the ring. In addition, a significant incidence of necrosis has been reported, as well as a disappointingly high incidence of incontinence. It is the purpose of this report to introduce a new device developed to achieve colostomy continence.

Method and Materials

The colostomy device is composed of two parts, both made of silicone. The first (Fig. 1) is a silicone ring, which is produced in three different internal diameters. The faceplate of the ring has its upper surface reinforced with dacron mesh for the acceptance of sutures. A 30 degree section of the circumference is similarly wrapped with dacron mesh to allow for dividing the ring and resutting it if the ring is to be passed around an already existing stoma. The ring is complemented by a silicone balloon (Fig. 2), which is available in varying lengths. This balloon is inflated and deflated by means of a 30 cc syringes.

The ring is implanted within the peritoneal cavity and is sewn to the undersurface of the abdominal wall around the opening made for passage of the bowel. It is advisable to make the abdominal wall defect as straight as possible. Because the presence of the ring itself will preclude the development of an abdominal wall hernia, it is not necessary to put the abdominal wall defect in the rectus muscle. It is appropriate to put it as far laterally as will be comfortable. Space should be left between the edge of the ring and the abdominal incision to ensure easy closure. The ring can be positioned centrally to the abdominal wall defect and held in place by an obturator, as demonstrated in Figure 3, which is also calibrated on its handle so that the thickness of the abdominal wall can be measured.

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A sizing mandrel is used to determine the proper size for the colon. The ring is sutured securely in place with eight to ten 2-0 atraumatic silk sutures. After the ring is in place, the bowel is brought through it in a gentle curve so as to avoid angulation of the bowel on the edge of the ring (Fig. 4). At this point digital examination of the end of the bowel is necessary to ensure that the ring has been centered and that there is no impingement of the ring on the bowel as it passes the posterior fascia. The incision is then closed and the colostomy matured in the usual fashion.

Ten to 12 days after the operation, the patient may begin using the plug. It may be used on the first day for an hour at a time with half-hour intervals between insertions. On the second day, this can be increased to two hours with one-half hour between insertions; the third and fourth day to three and four hours, respectively, and the fifth day ad libitum use of the plug may be counseled. There is some mucous discharge if the patient wears the ring for more than two hours; a small pad should be placed beneath the flange to absorb this mucus.