

# A CERCLAGE METHOD FOR HYMENOPLASTY

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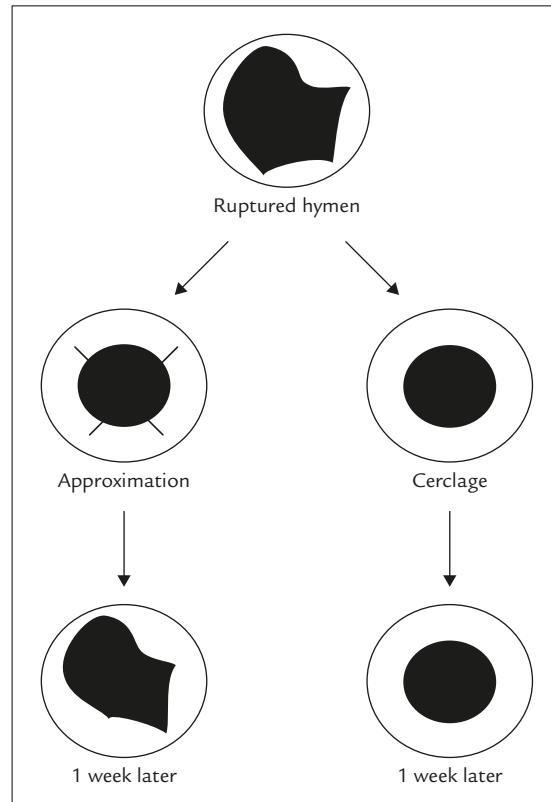
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Hymen repair is ethically and culturally controversial, but is seen as an acceptable part of plastic and reconstructive surgery in many countries [1,2], especially for an intact hymen disrupted by a surgery. However, only two studies of outcomes from hymen repair have been reported to date; one did not describe the method used [3] and the other used approximation of the hymenal remnants [1]. We developed a cerclage method and compared it with the approximation method for the effectiveness of hymen repair.

From 1991 through 2005, six women received the hymen repair operation. Their average age was  $23.8 \pm 2.4$  years (range, 21–27 years). Two women underwent an approximation operation. The approximation method was performed as described by Logmans and colleagues [1]. The epithelium and scar tissue of the adjacent margins of hymenal remnants were removed. The neighboring hymenal remnants were then approximated with a 5-0 chromic catgut suture with a left-to-right suture. The other four women underwent the cerclage operation. In this procedure, a 5-0 chromic catgut suture was introduced at the 6-o'clock position, about 2 to 3 mm into the edge of the hymenal remnants. Then, the suture was run clockwise into the submucosa to the 12-o'clock position, where the needle was pulled out. The needle was then re-introduced into the same small pore where it came out, and the suture was run clockwise back to the original 6-o'clock position. The needle was then pulled through the original needle pore. The ends of the suture were tied together around a 12-mm Hegar dilator to form an annular hymen, and the tie was placed under the mucosa. All the patients received consultation and evaluation before and after the operation to discuss the emotional and physical aspects of the procedure: the patient in 2005

was administered by a gynecologist and the other five by a social worker.

All the patients returned to the clinic 1 week later to check the integrity of the hymen. In both patients who underwent the approximation method, the examination showed that some approximated wounds of the repaired hymen healed, while some had detached from each other with granulation tissue growth, and required a repeat procedure (Figure). In the four patients who received the cerclage method, the examination showed an intact annular hymen with a transhymenal diameter of about 1 cm in all four patients (Figure).



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**Figure.** Some approximated wounds of the repaired hymen detached from each other, while the annular hymenal ring by cerclage repair remained intact 1 week after repairing.

The hymenal breaks had been flattened or made shallow by the underlying chromic catgut suture loop, to form a part of the annular hymenal ring. All six patients reported no regrets about the operation. Two patients with cerclage repair returned for long-term follow-up (4 and 6 years); neither had shown physical complications nor reported adverse emotional effects.

Hymen rupture can be caused by sexual intercourse, as well as physical exercise, masturbation, vaginal tampon use and surgical procedures [4,5]. The hymen disrupted by a surgical procedure is indicated for repair. However, only two studies on hymen repair have been published in the English literature. In one, the hymen remnants were approximated with left-to-right approximation or a circular running suture after removing the epithelial layer that had grown over the ruptured hymen. Repair was successful in all 20 patients [1]. The other study reported a high failure rate (four of six patients; 67%) but did not describe the repair method [3]. In our study, the two patients treated with the approximation method required a repeat procedure because some approximated wounds of the hymen were dehiscent. The wound dehiscence may have been due to fibrous change of the hymenal remnants [3] and the tension of the approximated wound, which may have impeded wound healing. Because the cerclage method does not remove the epithelial layer on the adjacent ruptured hymen [1], this approach does not lead to wound dehiscence. All six patients in our study were satisfied with the outcome of hymenal repair and reported no regrets. These findings are consistent with

the report by Logmans and colleagues, in which all 20 patients receiving hymen repair were satisfied with the outcome [1].

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