

## **Safety and Efficacy of Intra-Operative Modifications to the Shah Penile Prosthesis to Achieve Customized Fits in Narrow, Fibrous, or Perforated Corpora**

**Introduction and Objective:** The SHAH penile prosthesis is a non-inflatable, differential rigidity, hinged implant. Since it has two removable sleeves, and is made entirely of silicon, its length and diameter can be selectively trimmed to match a narrow or fibrous penis. Aim of this study was to assess whether customizing the implant by trimming, cutting or suturing through it, would affect implant function or predispose to infection.

**Materials and Methods:** There were 59 men implanted with a Shah prosthesis modified in one of the following ways: (a) Selective removal of distal 3 cm of sleeves (44 cases); (b) Placement of fixation sutures through the implant and tunica (10 cases); (c) Shortening of one implant of a pair by cutting through the hinge (4 cases); (d) Shaving the implant to selectively narrow a segment (1 case). Patients were monitored for 12 months after surgery for infection, silicon leakage, implant instability or malfunction.

**Results:** Trimming the implant proved to be highly effective in managing a variety of difficult situations. Removal of the distal part of the implant sleeves proved useful when the corpus was wide but tapered to a narrow distal end under the glans. Partial sleeve removal made the distal part of the implant 4 mm narrower, thus achieving a snug fit under the glans while maintaining a larger, more optimal diameter in the shaft. This did not compromise implant function or predispose to infection. In cases of proximal corporal perforation, the Shah implant was shortened, positioned distal to the perforation, and then transfixed to the tunica with a nylon suture. This avoided the need for a windsock repair. Puncturing the implant did not lead to complications. When the corpora were severely fibrosed the Shah implant could be shortened, or selectively narrowed by shaving so as to fit the fibrotic corpora without the need for a mesh to achieve closure. Implant function was satisfactory in all.

**Conclusion:** This study shows that the Shah prosthesis can be safely mutilated to achieve a custom fit in cases of corporal narrowing, fibrosis, or perforation. This makes it particularly useful for salvaging difficult-to-dilate corpora.