INTRODUCTION

The first penile implants were performed following World War II for plastic surgical reconstruction of the penis in soldiers who had sustained destructive injuries to the genitalia, usually from land mines and burns. Autologous cartilage and bone grafts were fashioned for internal penile splinting, but long-term results were poor, partly because of reabsorption of the material over time (1). These techniques were later expanded to the treatment of impotence, and the first use of synthetic materials (acrylic rods) was described by Goodwin and Scott in 1952 (2).
Few advances in the field were forthcoming until the late 1960s when silicone-based materials were developed as part of the space program. Borrowing from this technology, the modern era of penile prosthetic surgery began in the early 1970s as Scott et al. reported on the successful placement of an inflatable device into the corpora cavernosa (3). The Small-Carrion penile prosthesis, introduced soon thereafter, served as a prototype for the many malleable devices marketed over the next quarter century (4). At one time, rod-like devices outsold multicomponent inflatables by a 3-to-1 margin as a result of their ease of placement and mechanical reliability. Today, the market has shifted, heavily favoring the three-piece inflatable devices viewed as “more physiologic” by urologists and patients alike. Manufacturers have improved the design and construction of inflatables, whereas urologists have gained confidence in their ability to safely place the pump and reservoir.

Nevertheless, certain clinical situations remain where implantation of a semirigid device is preferable to an inflatable prosthesis. This chapter provides a survey of the semirigid devices currently available, their indications, advantages, and disadvantages.

**DEVICES**

Although the terms “semirigid” and “malleable” are often used interchangeably in the medical literature, there are actually two types of semirigid rods: malleable and mechanical. American Medical Systems (AMS) and Mentor each produce malleable systems, whereas Dacomed is the only manufacturer of a mechanical device.

**AMS Products**

AMS offers two malleable prostheses, the 600M and the 650. Both have a stainless steel, woven-wire core redesigned several years ago to incorporate more numerous and thinner strands. This made bending easier and reduced the spring-back angle to 45 degrees. The core is surrounded by a three-layer polyester covering enclosed within a solid silicone body. Surrounding the body is a trimmable silicone elastomer jacket. The 650 cylinders measure 13 mm in diameter and are supplied in a variety lengths with rear-tip extenders for accurate sizing. If needed, the jacket can be removed, reducing the cylinder diameter to 11 mm (see Fig. 1). The 600M is a narrower version of the 650 supplied in a 11.5-mm width that reduces to 9.5 mm when the outer jacket is trimmed.

**Mentor Products**

Mentor also offers two bendable devices, the Malleable and the AccuForm. They both have a silver-wire core, but differ in its configura-