

INFLATABLE PENILE PROSTHESIS:
ASSESSMENT OF PSYCHOSEXUAL EFFECTS ON ORGANIC
AND PSYCHOGENIC RECIPIENTS AND THEIR SEXUAL PARTNERS

by

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TABLE OF CONTENTS

	Page
LIST OF TABLES	vii
ABSTRACT	viii
CHAPTER	
1 INTRODUCTION	1
2 REVIEW OF THE LITERATURE	6
Background	6
Psychoanalytic Theories	6
Behaviorally Oriented Therapies	9
Systematic Desensitization	10
Biofeedback	14
Surgical Treatment of Impotence	17
A. Semi-rigid prosthesis	17
B. Inflatable prosthesis	20
Comparison of the Semi-rigid Device with the Inflatable Prosthesis	22
Complications	24
Partner Perception	26
The Need for Accurate Differentiation between Psychological and Organic Etiologies	28
3 METHOD	30
Subjects	30
Pretests	33
Posttests	34
Procedure	36
4 RESULTS	39
A. Validational Assessment	39
B. Differential Evaluation of Diagnostic Groups	47
C. Evaluation of Change Following Surgery	48
Patient Satisfaction	49
D. Partner Assessment and Patient-Partner Agreement	61
Partner Satisfaction	61
Patient-Partner Correspondence	64

TABLE OF CONTENTS--Continued

	Page
5 DISCUSSION	67
APPENDIX A: COPIES OF MALE AND PARTNER QUESTION- NAIRES	76
LIST OF REFERENCES	88

LIST OF TABLES

Table		Page
1.	Means and Standard Deviations of Dependent and Demographic Variables	41
2.	ANOVA and <u>t</u> -test Data for FIRO-B and MMPI	43
3.	Questionnaire Responses	50

ABSTRACT

Seventeen recipients of an inflatable penile prosthesis who had been organically or psychogenically impotent, and twelve of their sexual partners were evaluated several months after surgical implantation. The males were evaluated for changes in general psychological adjustment using the MMPI and the FIRO-B, which measure general psychopathology and interpersonal needs respectively. They also completed one of two instruments (Male and Partner Questionnaires) that were developed specifically for this study. Partners of recipients were assessed separately using the FIRO-B and Partner Questionnaire. Findings included increased levels of satisfaction with various aspects of the subjects' interpersonal relationships. A hypothesis that psychogenic recipients would demonstrate higher levels of psychological difficulties than organic recipients subsequent to implantation was not supported. Increases in frequency of sexual intercourse and duration of sexual play were discovered. Various complications requiring surgical correction were also described. The *Mf* and *Si* scales of the MMPI were essentially unique in distinguishing the diagnostic groups and seem to have potential as discriminating measures for organic and psychogenic impotence. Use of an inflatable penile prosthesis appears to be equally effective and reliable for the treatment of organic and intractable, psychogenic impotence, provided that proper pre-surgical screening procedures have been observed.

CHAPTER 1

INTRODUCTION

During the past ten years, a growing liberality and openness concerning human sexuality has helped to foment research and therapy in the area of human sexuality and sexual dysfunction. Concomitant with these changes has been an increased interest in the achievement of sexual fulfillment and the correction of sexual inadequacies. One of the most prevalent impediments to sexual satisfaction for both sexes is male impotence.

As far back as man can remember, impotence has existed and "cures" for it have been legion. Until fairly recently, both organically and psychogenically impotent men for whom traditional psychotherapy was ineffective had relatively few options available to them. In recent years however, new approaches to the treatment of erectile dysfunction have been advanced. Psychological interventions have included behaviorally oriented treatments such as those pioneered by Masters and Johnson (1964), along with a number of procedures often loosely based on their now landmark work (e.g., Kaplan, 1974). Additionally, new psychotherapeutic approaches have incorporated biofeedback (Laws and Rubin, 1969; Rosen, 1973), systematic desensitization (Friedman, 1968; Salzman, 1969) and "in vivo" desensitization (Wolpe, 1958; Dengrove, 1971) to assist in the treatment of psychogenically impotent men.

Technological advances in medicine and prosthetic surgery have also provided impotent men with alternatives when the foregoing psychotherapeutic approaches have proven unsuccessful. Males with an organic or intractable psychogenic impotence may be surgically implanted with a variety of prostheses, ranging from the semi-rigid siliastic rods of the Small-Carrion (1975) variety, to the somewhat more complex inflatable penile prosthesis (I.P.P.) developed by Scott, Bradley and Timm (1973). Though several types of prostheses are available, most reported research has been conducted on these two types and subsequently, this paper shall restrict its focus to these two varieties.

The use of a prosthesis in the treatment of erectile dysfunction should logically depend, at least in part, on the etiology of the disorder. Certainly, a clearly established organic basis for the impotence, in the absence of psychopathology would provide a sound basis for surgical intervention. However, an issue exists regarding the justifiability of utilizing a surgical procedure to rectify a psychogenic condition. Initially, sex therapy or psychotherapy would seem to be the treatment of choice in such cases. If such an approach fails to yield the desired results however, surgical procedures may be considered. Again, the absence of psychopathology would seem to be a prerequisite for such a decision. Unfortunately, cautious evaluation either of etiologies or underlying psychological contributors has not always occurred.

The surgical correction of impotence through the use of penile prostheses has been overwhelmingly successful from a technical viewpoint. That is, few serious surgical complications and mechanical failures, along with an increased capacity for penetration has been reported in

almost all cases. Psychological success however, is less certain and more difficult to assess. Stewart and Gerson (1976) and Beutler, Scott and Karacan (1976) have reported adverse effects presumably resulting from premature implantation of the inflatable prosthesis. Receipt of the devices has sometimes been followed by separation, divorce and even psychotic decompensation. Considering the anecdotal nature of these reports, it is unlikely that difficulties are exclusive to those individuals with psychogenic impotence. However, the likelihood of their occurrence is considered to be greater among those with psychogenic impotence than among those with organic impotence. The case reports of Stewart and Gerson, and Beutler et al., serve to emphasize the need for thorough psychological screening of implant candidates and the elimination of those individuals with affective or thought disorders which would place them at risk for post-surgical decompensation. Although the reports found in a few case studies do not establish a causal relationship, the correspondence among reported cases and seriousness of possible effects are sufficient to induce caution among providers and potential prosthesis recipients alike. Nonetheless, not all providers of penile prostheses adhere to stringent exclusion criteria which incorporate measures of psychological adjustment (Binkhorst-Kramarsky, 1978). Implantation of such devices may occur in males with borderline psychological adjustment, and serious consequences may result.

While both the effects of penile prostheses on the recipients and the psychological success of the procedure are somewhat uncertain, the effects on the recipients' sexual partners are even less certain.

Few studies have investigated partner perception and reaction in relation to penile implants. Binkhorst-Kramarsky (1978) examined the perceptions and satisfaction levels of 31 female partners of Small-Carrion penile prosthesis recipients. She noted various concerns of these women, pointed out the need for the assessment of the cultural background and the sexual versatility of the couple, and observed the need for the mutual acceptance of the altered state. Beutler (1979) found lower rates of dissatisfaction among partners of prosthesis recipients than Binkhorst-Kramarsky and less concern with "thinness" and "feel" in the inflatable device. Beutler also emphasizes the need to involve the sex partner in the decision process, preparation and post-operative care of the implant recipient. Both of these studies serve to underscore the need for careful assessment of not only partner perception of and reaction to the penile prosthesis, regardless of the type of implant, but the extent of couple interaction, unity and discord.

Acknowledging the importance of the foregoing issues, the purpose of this study was twofold. One major aim was to conduct an evaluation of the effect of the inflatable penile prosthesis on those males with organic and psychogenic impotence. This evaluation was designed to emphasize the sexual and psychological adjustment to the implant several months post-surgery and to focus on any differential reactions between those with organic and psychogenic impotence.

The other major aim of this study was to gather some information on the effects of the surgery on the recipients' sexual partners. To this end, both partner satisfaction and sexual adjustment was examined in detail.

It was hypothesized that psychogenically impotent recipients would experience a greater degree of psychological and/or sexual difficulties following implantation than would organically impotent recipients. This hypothesis was based on Beutler's (1978) postulation that "whereas a surgical procedure can restore the sexual functioning of either an organogenic or psychogenically impotent man, one might expect differential psychological reactions to sexual restoration" (p. 21).

It was also hypothesized that with renewed erectile capabilities would come increased levels of couple satisfaction; increased frequency of sexual intercourse and renewed feelings of confidence for males of both diagnostic groups.

If, on the other hand, a penile prosthesis does not differentially affect organically and psychogenically impotent men, then we might be more confident in the clinical decision to treat intractable psychogenic as well as organic impotence with prosthetic surgery. Until we can offer such psychogenic clients an effective psychotherapeutic treatment, we can do no less than insure that the medical treatments now available are as safe, effective and reliable for them as for their organically impotent counterparts.

CHAPTER 2

REVIEW OF THE LITERATURE

Background

Man's concern with impotence has been noted throughout history, and attempts at its treatment and correction have been recorded by cultures throughout the world. Interestingly, in the area of treatment the majority of literature is anecdotal, studies involving no more than a few cases is not uncommon, and empirical research data are scarce.

Unless a clear-cut organic condition can be established, the majority of estimates based predominantly on clinical judgment suggest that close to 90% of impotence is psychogenic. Recent research (Karacan, Salis and Williams, 1978) suggests that a greater proportion of impotence may in fact be of an organic nature than was previously thought.

Due to the widespread notion that the majority of impotence was psychogenic in origin, treatments tended to be some sort of psychotherapy directed at one or both sexual partners. In reviewing the effectiveness of such psychotherapeutic treatment, we shall begin with psychoanalysis and psychoanalytically oriented psychotherapy.

Psychoanalytic Theories

According to Freud (1953), unconscious intrapsychic conflicts stemming from unresolved oedipal problems are often the root of psychically based impotence. More specifically, during the oedipal period of

psychosexual development, the young boy desires and wishes to possess his mother and kill his father, who is the hated rival for his mother's affections. Guilt and fear regarding these forbidden wishes give rise to anxiety regarding the father's imagined retaliation. According to the theory, these infantile sexual wishes are warded off successfully and relegated to the unconscious. Unsuccessful resolution of the oedipal conflict results in the re-emergence of these infantile sexual wishes and their accompanying feelings of guilt and anxiety, whenever sexual excitement is engendered. The result of course, is impotence. Psychoanalytic theory points out that these unconscious conflicts must be ameliorated by analytic means before potency can be restored.

Kaplan (1974) notes "that issue may be taken with the psychoanalytic concept that impotence serves as a defense against the emergence of anxiety which results from the reawakening of oedipal fantasies and feelings" (p. 260). She proposes an alternative hypothesis in which impotence is not a defense to ward off anxiety, but is rather a psychological result of anxiety, regardless of the anxiety's source. "It is when the patient's psychic defenses fail to prevent the emergence of anxiety that erectile dysfunction occurs." She also questions the validity of psychoanalytic theory regarding impotence due to the relative efficacy of more direct, brief treatment approaches which do not attempt to resolve deep-seated psychic conflicts. If psychoanalytic theory was correct in its formulations, such short term treatments should not be as effective as the more lengthy analytic methods in producing a remission of symptoms.

Cooper (1978) does not believe that classical analysis should be undertaken for the correction of impotence. Among his reasons are that: (1) it is prohibitive in terms of time and money; (2) previous research indicates that the maximum therapeutic effects were attained within three to six months of initial treatment, with little or no additional improvement; (3) the requirements of analytic treatment preclude the active participation of the female partner, which has been shown to be of critical value in treating impotence (Masters and Johnson, 1970).

In his review of the literature, Cooper delineates several authors' predictions regarding cure-rates of impotence. Freud feels confident with respect to recovery in the psychically impotent... "with perhaps the exception of cases involving a typically masochistic attitude perhaps embedded since infancy" (p. 325). Cooper attributes a figure of 76% to Rees for the cure-rate for impotence and cites Gutheil as indicating that the outlook for treatment of impotence is on the whole good, with the extent of improvement being related to the patient's sex drive. Gutheil also maintains that increased age and an impotence of long duration are bad prognostic indicators. Finally, Cooper interprets Ellis as believing that the prognosis is worsened if the impotence is associated with masochism, fetishism, transvestism, and homosexuality, because these are thought to have a predominantly constitutional basis. With respect to the psychoanalytic viewpoint, statements unsupported by empirical data regarding the efficacy of analytic treatment are common, but are far from conclusive.

Behaviorally Oriented Therapies

Masters and Johnson's (1964) behaviorally oriented treatment was an optimistic departure from the analytic approaches to the treatment of impotence. Through a follow-up of cases over five years, they reported lasting relief for 50% of those males who were impotent since adolescence and 80% for those who became impotent later in life. Some speculation on the possible reasons for their success has to include the near optimum conditions under which the therapy is applied. Both partners must devote two full weeks to the intensive sessions, beginning with individual sessions for each partner with a male or female co-therapist, progressing to tandem sessions with both partners and co-therapists.

Another possible reason for their success is Masters and Johnson's insistence that the couple recognize the problem as mutual and have a sincere desire to improve their marriage. In other words, only those couples expressing genuine motivation and a willingness to work hard to improve their situation are accepted for therapy. Masters and Johnson also employ careful pretreatment screening designed to eliminate those couples with coexisting psychiatric problems, and accept patients only from bonafide professional sources.

It is worth noting that one of their requirements for acceptance is a previously unsuccessful therapeutic attempt, of at least six months duration. Not uncommonly, this previously attempted treatment was psychotherapy of one form or another. It would seem obvious that Masters and Johnson's stringent pretreatment requirements play a crucial

role in their admirable success rate. Other symptom-focused couples approaches are often based more or less on the Masters and Johnson approach (Lobitz and LoPiccolo, 1972).

Many sex therapists commonly employ an amalgam of treatment procedures, often loosely based on the approach of Masters and Johnson. Kaplan's (1974) approach rests on the basic premise that anxiety occurring at the time of intercourse results in impotence; and the objective of therapy among other things, is to prevent the anxiety's occurrence. To this end, "the initial treatment strategy is to manipulate the sexual system so as to enhance the stimulating factors and diminish those which engender anxiety in the patient." Not unlike the approach of Masters and Johnson, Kaplan's treatment generally begins with a period of erotic teasing coupled with ejaculatory abstinence and an emphasis on non-demand, non-intercourse sexual behaviors. When erectile capabilities are restored, the couple is allowed to gradually resume coitus, but only through a series of guided stages, to insure that old demand patterns are not reproduced. During the treatment, the therapist (one in Kaplan's program as opposed to two in Masters and Johnson's) remains alert to the appearance of specific factors which serve to impede the patient's erectile response. These factors then become the primary focus of the psychotherapeutic treatment.

Systematic Desensitization

Due to the notion that psychogenic impotence is due largely to anxiety, several authors (Friedman, 1968; Garfield, McBrearty and Dichter, 1969; Lazarus, 1965; Salzman, 1969; and Wolpe and Lazarus, 1966)

have argued that systematic desensitization was the therapy of choice. This was questioned by Cooper (1968) however.

A study by Kockott, Dittmar and Nusselt (1975) compares the efficacy of systematic desensitization in the treatment of impotence both with "routine therapy" (therapy usually provided by general practitioners, urologists, and the like; e.g., medication or placebo and general advice); and no therapy at all. Patients in the behavior therapy group received 14 sessions of systematic desensitization; those in the routine therapy group received a total of four sessions with psychiatrists at intervals of three to five weeks, who tried to duplicate the routine treatment used in private practice; the patients on the waiting list (no treatment group) had to wait 16 weeks on the average.

The authors found that when systematic desensitization was used alone, only a limited therapeutic effect was elicited. "After therapy, patients in the behavior therapy group were able to imagine having intercourse with a woman they had just met with less aversion and anxiety than the patients in the two control groups. No other significant changes were found."

It became clear to the authors that other factors in addition to the anxiety were helping to maintain the dysfunction. Such things as social anxiety, unrealistic sexual standards, very limited range of sexual behaviors and an attitude that "sex is dirty" interfered with the treatment.

The authors subsequently treated 12 patients that had shown no improvement with a modification of Masters and Johnson's techniques in combination with sex education. Of the 12 patients treated in this manner, eight were cured or improved, three showed no change and one patient relapsed after completion of therapy. The authors conclude that the results of this method are superior to the results of systematic desensitization alone, and their data would seem to lend support to Cooper's original skepticism regarding systematic desensitization.

Although the study by Kockott et al. (1975) serves to interfere with any unmitigated optimism regarding systematic desensitization and the treatment of impotence, a study by Lazarus (1961) found it to be an effective treatment. Using five subjects, Lazarus administered group desensitization to two subjects, and interpretive group therapy to the remaining three subjects. Both the desensitization and interpretive groups were conducted three times a week for approximately 20 sessions. Based on self-reports, both of the men in the desensitization group but none of the men in the interpretive group were rated as recovered. Lazarus concludes that the outcome of this study serves as evidence for the value and efficacy of systematic desensitization.

Reynolds (1977) has speculated about the possible causes for the conflicting results of Lazarus and Kockott et al. Among his criticisms was the fact that the subjects in the study by Kockott et al. received fewer desensitization sessions, than did those treated by Lazarus. This difference might have reduced the effectiveness of the former treatment. Reynolds also agrees with Shusterman (1973) who points out that high therapeutic pressures involved in the group

experience may have interacted with the specific desensitization procedures to produce Lazarus' high success rate. It is also worthy to note the small sample size in the study conducted by Lazarus. Reynolds concludes that the discrepancies in the outcome results cannot be unambiguously resolved, however.

Wolpe (1958) and Dengrove (1971) have reported success with the use of in vivo desensitization treatment of erectile dysfunction. In vivo desensitization differs from systematic desensitization in that the progressive presentation of the anxiety provoking situations occurs in the client's natural environment rather than in his imagination. This type of progressive presentation does not drastically differ from some of the therapeutic techniques advocated by Masters and Johnson (1970) and Kaplan (1974). Lobitz and LoPiccolo (1972) have even suggested that many of the techniques of Masters and Johnson are best understood using an in vivo desensitization model. However, there are formal differences between the Masters and Johnson approach and the in vivo desensitization treatment model of Wolpe and Dengrove, including the 14-day intensive format, the dual-sex therapy teams and the couple-therapy sessions adopted by the former approach.

Research on treatment outcomes of in vivo desensitization has been limited to single-treatment evaluations without control group comparisons. Wolpe (1958) has reported on the treatment of seven men with in vivo desensitization that utilized assertive and sexual responses as anxiety inhibitors. Six of the men were reported as "apparently cured" with the remaining individual rated as "much improved." However, at least one of these men was actually treated

for premature ejaculation and not erectile dysfunction. Dengrove (1971) has described three successful cases in which in vivo desensitization was combined with chemotherapy designed to enhance relaxation. Again, the lack of control group comparisons hampers accurate evaluation of the efficacy of in vivo desensitization.

Biofeedback

With the advent of the successful training of subjects through biofeedback in the control of various bodily functions previously considered to be involuntary such as peripheral surface temperature, blood pressure, and brain-wave production, examination of its potential for the treatment of erectile dysfunction was imminent. Several studies have shown that nonpatient males evidence some control over their erectile responses (Laws and Rubin, 1969; Rosen, 1973; Rosen, Shapiro and Schwartz, 1975). Using various penile transducers to measure changes in penile tumescence in the laboratory, college-age volunteers have been able to suppress erections in the presence of erotic stimuli, or to enhance erections by instruction alone (Laws and Rubin, 1969).

Rosen (1973) has demonstrated that when subjects are provided with visual biofeedback concerning the degree of their erections, their control of tumescence improves over that demonstrated sans biofeedback. Rosen et al. (1975) additionally demonstrated that contingent biofeedback is critical, since males provided with visual feedback and monetary rewards for increases in erections demonstrate greater facilitation of erections than do subjects given rewards and non-contingent feedback.

Evidence that biofeedback can facilitate voluntary control of erections in nonpatient subjects would suggest the potential utility of biofeedback in the treatment of erectile dysfunction. Unfortunately, research in this matter has been limited to only one comparison-group study (Csillag, 1976) and a few single case experiments (e.g., Barlow, Agras, Abel, Blanchard and Young, 1975; Herman and Prewett, 1974; Quinn, Harbison and McAllister, 1970). The majority of these studies have dealt with attempts to increase heterosexual arousal in homosexual subjects rather than to treat erectile dysfunction per se, thus further restricting generalization of their findings.

Herman and Prewett (1974) have provided some evidence for the efficacy of contingent biofeedback in the treatment of erectile dysfunction in a 51 year-old male who had never achieved or maintained an erection in either hetero- or homosexual encounters. The authors found significant increases in the client's erectile response during 16 sessions utilizing contingent feedback. Erectile response decreased when non-contingent feedback was substituted, and increased once again with the reinstatement of contingent feedback. These changes in penile response were paralleled by changes in his ability to masturbate to orgasm, changes in masturbatory fantasy, and reported changes in homo- and heterosexual arousal outside of the laboratory. The progress was short-lived due to emotional difficulties encountered by the client, however, who subsequently withdrew from participating in the sexual behavior required by the treatment. Nonetheless, this setback did not change the authors' optimism regarding the use of contingent biofeedback in the treatment of erectile dysfunction.

A case study by Quinn et al. (1970) and three single-subject experiments conducted by Barlow et al. (1975) have not demonstrated lasting changes in heterosexual arousal directly attributable to biofeedback. It should be noted that in these cases, the subjects were not suffering from erectile dysfunction but were seeking treatment for their arousal to homosexual rather than heterosexual situations.

Successful treatment of erectile dysfunction has been reported in a comparison-group study by Csillag (1976). Csillag's treatment group consisted of six subjects who had experienced erectile dysfunction lasting from six months to ten years. Five of these subjects were exclusively heterosexual, and the remaining subject was bisexual. Csillag's comparison group consisted of six volunteers with no history of sexual dysfunction. All subjects underwent two sessions a day for a total of sixteen sessions, during which time they were instructed to fantasize and to attempt to attain erections under various combinations of visual and auditory feedback coupled with visual erotic stimuli.

Csillag found that volunteer subjects demonstrated greater initial changes in penile diameter, but the amount of daily increments dropped considerably as treatment progressed. Conversely, the subjects with erectile dysfunction demonstrated minimal initial diameter changes, but their daily changes in penile tumescence increased as the experiment progressed. Three of the five heterosexual subjects in the treatment group achieved sufficient improvement in their erectile functioning to complete sexual intercourse. The bisexual treatment subject reported significant improvement in his erectile functioning in homosexual situations but had not engaged in a heterosexual situation during the

follow-up period. A fifth subject reported improvement which was still vulnerable to minor stresses, and the last subject reported no improvement. Csillag's results seem to provide evidence that biofeedback can be successfully utilized in the treatment of erectile dysfunction.

Surgical Treatment of Impotence

In addition to the myriad forms of psychotherapy and behavior therapy cited earlier in this paper is surgical intervention in the treatment of erectile dysfunction. There exist many types of surgical treatments, but examination of them all is beyond the scope of this paper. Primarily, this manuscript shall deal with penile prostheses, and shall further restrict its focus at this point to two types: the semi-rigid siliastic rods of the Small-Carrion variety and the more recently developed inflatable penile prosthesis offered by Scott-Bradley. This decision is based on the fact that most reported research has been conducted on these two varieties of prostheses.

A. Semi-rigid prosthesis

Several studies involving the Small-Carrion prosthesis have cited success in terms both of ability to achieve intercourse and patient satisfaction (Bias, Leverett, Parry and Halverstadt, 1975; Evins, 1978; Melman, 1976; Nellans, Naftel, Stein, Tansey, Perley, and Ravera, 1976; Small, 1976, 1978a, 1978b; Small, Carrion and Gordon, 1975).

Small (1978a) has described his prosthesis which consists of two semi-rigid siliastic rods which are inserted into the previously dilated corpora cavernosa. He claims that a normal state of erection

can be achieved by this bilateral intracorporal implantation, which gives adequate length and width to the penis. He maintains that although the prosthesis is firm, it is also flexible enough to be concealed inconspicuously under various types of undershorts, in either the "normal" position or against the abdominal wall. He does not see the permanence of erection as a detriment, and reports that he has received no postoperative complaints about this phenomenon. He cites various other authors who have reported excellent results with the use of the Small-Carrion device as further evidence for his claims.

In one report, Small (1978b) cites data on 160 cases and submits a review of the literature. He describes various methods which he believes are useful in determining those patients who will benefit from the use of his prosthesis and the size of the prosthesis needed. He also provides some suggestions on how to handle problems or complications that may occur during or after the operation, and the antibiotic program that is recommended.

Melman (1976) has described the treatment of 13 patients who were successfully implanted with Small-Carrion devices. He advocates insertion through a penile incision as opposed to perineal incision in most cases because of the surgical control and decreased chance of infection afforded by the former.

Nellans et al. (1976) report on their experience with 23 patients implanted with the Small-Carrion penile prosthesis. They describe the surgical technique involved and some postoperative results. The major complication encountered was infection. However, all of their

patients were able to accomplish intercourse without significant difficulty. They cite proper patient selection and the attitude of the sexual partner as major factors in the ultimate success or failure of the procedure.

Bias et al. (1975) discuss their surgical experience with 31 siliastic prostheses in 28 patients, with success in all but two cases. Surgical technique, postoperative complications, indications for the procedure, and the results are discussed. The authors suggest that consideration be given to using an implantable penile prosthesis in organically or psychogenically impotent patients who are unresponsive to other forms of therapy.

Small (1976) and Small, Carrion and Gordon (1975) cite further results from implants in 75 and 31 patients respectively. In both studies excellent results are reported and few complications are cited (i.e., temporary urinary retention, transurethraly extruded prostheses which did not necessitate the removal of the remaining prosthesis, and superficial wound infections).

Kramer, Anderson, Bredael and Paulson (1979) have examined the complications involved with 76 patients who received Small-Carrion devices, and found 20 patients with postoperative complications. Seven of these 20 lost one or both prostheses either by spontaneous extrusion or surgical removal. Other complications listed were: superficial wound infection- 5 patients; unretinal erosion- 3 patients; inappropriate size, flexion deformity- 3 patients; prolonged pain- 2 patients; postoperative hypoglycemia- 2 patients; acute urinary retention- 2 patients; atelectasis and fever- 2 patients; and deep wound infection- 1 patient.

The authors discuss management strategies for each of the listed complications, and generally support the use of the Small-Carrion penile prosthesis when indicated in the treatment of erectile dysfunction.

Kelami (1977) maintains that impotence is best treated surgically with the Small-Carrion device through an infrapubic approach, and recommends that psychoanalysis or other forms of therapy always accompany the surgical approach.

B. Inflatable prosthesis

Several authors have discussed the utilization of the inflatable penile prosthesis in the treatment of impotence. (Brown, 1978; Fallon, Milleman and Culp, 1978; Furlow, 1976, 1978a, 1978b, 1978c, 1979; Kothari, Timm, Frohrib and Bradley, 1972; Montague, Hewitt and Stewart, 1979; Renshaw, 1979; Scott, Bradley and Timm, 1973; Scott, Byrd, Karacan, Olsson, Beutler and Attia, 1979).

Scott et al. (1979) have reported on five years of clinical experience with the inflatable prosthesis among 245 men, 235 of which were organically impotent and 10 of whom were psychogenically impotent. Of these, 234 were able to use the device to their satisfaction and no failures occurred in the 152 cases treated in 1976 and 1977. The authors attribute their success in part to the careful selection of patients by a team consisting of: a urologist, a sleep researcher, a psychologist, and a psychiatrist; each of whom evaluate the patient independently. The authors additionally suggest that impotence may be more common than generally believed and that organically based impotence may account for a greater proportion of the cases than formerly thought.

Furlow (1979) has reported on his experiences with 175 patients, and claims that functional success with the implantation of inflatable prostheses can be anticipated in 90 to 95% of the patients. He delineates both pretreatment screening procedures and surgical technique as well as postoperative complications, which he divides into pathologic and mechanical categories. The former category includes infection of the prosthesis, scrotal hemotoma and scrotal erosion; while the latter includes such things as kinking of the tubing, failure to inflate properly, loss of fluid, and inadequate fluid volume. Furlow maintains that such complications occur with relatively low frequency and observes that there have been no reported operative or postoperative deaths associated with the implantation of more than 6,000 devices. Hence, Furlow believes implantation of the inflatable penile prosthesis to be a highly acceptable method of treating organic impotence.

In another paper, Furlow (1978a) has described the use of a device which significantly simplifies the insertion of the inflatable prosthesis into the corpus cavernosum. The use of the device assures accurate positioning within the corpora, with a minimum of device manipulation and tissue trauma and which minimizes postoperative complications.

In an earlier study, Furlow (1978b) had cited his experiences with 63 organically impotent men implanted with the inflatable prosthesis. Again, overall functional success was between 90 and 95%. His experience indicates that as many as 25% of implant patients may require a second surgical procedure to correct a mechanical problem (which has presumably been reduced as the device has undergone further development).

He reports that among his sample of patients, partner acceptance of the device has been excellent. These results confirmed those obtained by the same author earlier (Furlow, 1976).

Furlow has also discussed the use of the inflatable prosthesis in males with Peyronie's disease (1978c). He recommends the inflatable prosthesis to patients with a mild degree of Peyronie's disease because of the degree of control over the amount of inflation it provides. He maintains, however, that over-inflation in such cases results in exaggerated curvature of the penis.

Malloy and Voneschenbach (1977) have reported results of 39 men with erectile impotence implanted with the I.P.P. The patients were followed from six months to two years. Thirty-five patients (90%) expressed satisfaction with the appearance and performance of the prosthesis. Major complications developed in 23% of the patients, requiring 12 additional operations. The authors stress the need for further long term study of the inflatable prosthesis before it can be truly compared to other surgical prostheses.

Comparison of the Semi-rigid Device with the Inflatable Prosthesis

Smith, Lange and Fraley (1979) have published a comparison of the Small-Carrion and Scott-Bradley devices in a study involving 45 subjects. Of these, 28 received the Small-Carrion device and 17 received the inflatable prosthesis of Scott-Bradley. Almost all patients were satisfied with the results regardless of the type of prosthesis. All but two of the patients in the study felt more virile and reported greater self esteem after the operation. However, two patients were

markedly depressed and attempted suicide after the procedure. One of these had severe diabetes and is now using the Small-Carrion device, but the other patient implanted with the inflatable prosthesis will not inflate it despite intensive psychotherapy.

The authors observe that it takes an average of 30 minutes more to insert the Scott-Bradley device than it does to insert the Small-Carrion device. They maintain that the Small-Carrion device also presents considerably fewer mechanical problems than the Scott-Bradley device. In their study, moreover, 15 patients (54%) with the Small-Carrion device were not completely impotent prior to the operation and continued to have a superimposed erection, which became thicker and firmer during sexual intercourse. By contrast, the Scott-Bradley prosthesis implanted in 10 non-completely impotent men, produced no significant enhancement of the size or thickness of the penis when erect. The authors claim that these findings are sufficient to recommend the choice of the Small-Carrion device for those patients who are not completely impotent.

Fourteen percent of the authors' sample complained of embarrassment with the Small-Carrion device, most of whom were younger men involved in athletic activities.

Hence, the authors conclude that since the similarities between the two devices far outnumber the differences, the patient should be advised of the merits of both devices and allowed to select his preference. The authors do suggest, however, that younger patients who participate in athletic activities might best be advised to obtain the Scott-Bradley device. Likewise, they recommend that the Scott-Bradley

device be used in patients who are likely to undergo repeated cystoscopies, such as patients with a renal transplant. On the other hand, those with Peyronie's disease and paraplegics in wheelchairs who have condom-catheter drainage are advised to obtain the Small-Carrion device.

Complications

As may be seen from the previous study, while a higher percentage of men regain potency with surgery than through psychotherapy, implantation of penile prostheses are not without risk. No such negative effects are attributed to sex therapy. In addition to mechanical and physical complications, there may be psychological trauma involved in the operation.

Stewart and Gerson (1976) have noted a case in which a paraplegic was left by his wife within 72 hours of his return home with an inflatable penile prosthesis. Even though both patient and wife underwent psychiatric evaluation prior to surgery, the impact of a penile prosthesis proved devastating to this marriage. In the post-operative interview, it was discovered that the wife felt that the prosthesis diminished her psychosexual importance to her husband. She felt less involved and less important to her husband than she had before the prosthesis.

This case according to the authors, should serve as a warning to physicians and patients who are considering this procedure within the context of a stable post-injury marital relationship. The authors point out that among some couples, the quest for a prosthesis may signify over-identification with "a cultural value system which places

an inappropriate emphasis on traditional sexual performance rather than an insightful pursuit of a realistic improvement in the communication within their marriage." Extensive empirical investigation into the issue of marital discord and dissatisfaction subsequent to the surgical correction of impotence is lacking.

Beutler, Scott and Karacan (1976) also report on several psychological complications that were encountered following the implantations of inflatable prostheses. One patient underwent a technically successful implantation, yet subsequently refused to learn how to correctly operate the device, despite superior intellectual abilities. This observation suggests that some patients may have substantial psychological needs for maintaining their impotence. Although his overall condition made him a candidate for implantation, the results presented underscore the need for psychotherapeutic follow-up during the recovery and adjustment period.

Another recipient who presented borderline psychological adjustment prior to surgery, experienced a full-blown psychotic reaction, complete with somatic-sexual delusions, exhibition of his new-found erectile capacity in the hospital gift shop, and the expression of many inappropriate hostile and sexual advances toward the nursing and surgical staff. This incident clearly suggests that persons with borderline personality adjustment may be inappropriate candidates for implantation until their psychological conflicts are resolved.

A certain degree of inexperience on the part of the authors accounted for the errors in judgment cited above, but the cases serve to emphasize the need for careful psychological evaluation of the

candidates for surgery and post-surgical follow-up for recipients, as well as the possible psychological complications which can ensue.

Partner Perception

There is a paucity of literature concerning the reactions of wives or sexual partners of men receiving penile prostheses. A study by Binkhorst-Kramarsky (1978) examines the perceptions of 31 female partners of penile prosthesis recipients. Preoperative interviews revealed concerns such as: feared vaginal injury (47%); partner's fear of infidelity (55%); concern over operative risk (54%); concern over continued desirability (45%); concern about their ability to "turn-on" their male partners and subsequent feared loss of self image (35%). Less than half (42%) of the women reported that the couple was totally satisfied with the results of the operation. In fact, four women who were sexually active with their partners postoperatively, were unaware that implant surgery had been performed until Binkhorst-Kramarsky's study.

Among the postoperative problems reported by the women were: initial dyspareunia (17%); refusal to touch penis (23%); partner's hypersexuality (17%); feared harming of the penis (26%); continued dyspareunia (10%); penis too short/flexible (25%).

Binkhorst-Kramarsky points out the need for assessing the cultural background and the sexual versatility of the couple, in addition to the need for the mutual acceptance of the altered state. The impact of restored sexuality may require renewed sexual exploration and the

development of new techniques which will help prevent postoperative sexual dysfunction.

In a paper by Beutler (1979), data collected from 78 patient cohorts via questionnaire mailings revealed that only about four percent were unhappy and had regrets about the surgery, which is comparable to a six percent figure reported by Binkhorst-Kramarsky. Beutler found a smaller number of patients who were unaware of the surgery before the study than Binkhorst-Kramarsky; and 90% of Beutler's subjects reported happiness and satisfaction. Few of the wives in his study complained about post-surgical reduction in penis size, contrary to the larger percentage of wives who expressed dissatisfaction regarding this in Binkhorst-Kramarsky's study.

Psychological concerns expressed by subjects in this study included the knowledge that the erection was artificial, self-consciousness, and reluctance. None of the partners in Beutler's study expressed depression as a result, and his questionnaire failed to assess the woman's sexual functioning.

Five wives in Beutler's study were personally interviewed, and only one of these five expressed concern about her husband's fidelity. This latter woman was also unaware of the surgery until months afterward. Two others knew of their husbands' exploits and made no attempt to interfere; one of these women even shared her husband with over 20 other women who were reportedly sexually dissatisfied before that encounter.

The Need for Accurate Differentiation
between Psychological and Organic Etiologies

Progress in the study of nocturnal penile tumescence (NPT) by Karacan, Salis and Williams (1978) has aided in the successful differential diagnosis of types of impotence. Beutler, Ware and Karacan (1978) have advocated painstaking measures such as NPT monitoring over a period of three consecutive nights, and a comprehensive psychological assessment be undertaken before a patient is classified either as organically or psychogenically impotent. They also advocate and insist upon a careful screening of each implant candidate conducted by a clinical team prior to the acceptance of the candidate for surgery.

In the study by Furlow (1979), patient-partner acceptance of the prosthesis was reported to be excellent. However, it must be pointed out that in his study, Furlow relied on the patient's history, MMPI profile, psychologic consultation and discussion with the patient and his spouse (if married), or in some instances with his fiancée in order to distinguish the organically from psychogenically impotent. These methods alone may be unreliable in the absence of NPT monitoring in the determination of organic impotence. Furlow did not specifically attempt to compare psychogenically and organically impotent males, but he did delineate 22 of the 175 patients as being psychogenically impotent; while 140 patients were distinguished as organically impotent.

It is of paramount importance to ascertain as fully as possible the erectile capabilities of any implant candidate. The most impotent male (by history) may surprisingly demonstrate considerable nocturnal tumescence, of which neither he nor his partner is aware. Failure to

detect such capabilities may lead to an incorrect diagnostic conclusion of organic impotence. Such diagnostic errors may undermine any attempt to accurately compare the effects of a penile implant in those males who are organically impotent with those who are psychogenically impotent.

CHAPTER 3

METHOD

Subjects

The men used in this study were selected from a population that had voluntarily sought and received implantation of the inflatable penile prosthesis at St. Lukes Hospital and Baylor College of Medicine in Houston, Texas. All of these men had undergone psychological and physical evaluations to determine both the pathogenesis of their impotence and their suitability for implantation prior to the surgery. Impotence was defined for this study, as failure to initiate sufficient erection for sexual penetration on at least 50% of sexual encounters over at least a one year period. In point of fact most of our subjects had been impotent for several years prior to their being accepted for corrective surgery.

Part of the evaluation included three consecutive nights of nocturnal penile tumescence (NPT) monitoring conducted in the Baylor Sleep Disorders Center. Karacan et al. (1978) have described in detail the use of NPT monitoring in the differential diagnosis of organic and psychogenic impotence and have supplied validation data on their criteria. Following their description, NPT monitoring included assessment of penile circumference change, which was monitored by two mercury-filled strain gauges placed at the tip and base of the penis respectively. According to Karacan et al. (1978), NPT in normal men is

characterized by greater circumference change at the penis base than at the tip during a full erection. Unusually small changes at either location indicates either anatomical abnormalities or disease processes (e.g., Peyronie's disease) that contribute to impotence. The first night of monitoring allowed the patient to become accustomed to the new surroundings (the sleep lab); the second night provided the basic data of NPT patterns; and the third night was utilized to perform a series of special evaluations wherein the patient was awakened at least once during a maximal NPT episode for a turgidity challenge. On that night, after the patient had been fully awakened, the examiner photographed the patient's erect penis, and asked the patient to estimate the degree of his erection on a scale from 0-100%. The examiner also made an independent estimate of the patient's erection with reference to the appearance of a fully erect penis. The patient's penis was then tested for its buckling pressure, measured in mm of Hg. This was done to assess the presence of sufficient turgidity that success in vaginal penetration could be anticipated. Karacan et al. (1977) have defined patterns that characterize normal NPT through their experience with more than 2000 healthy men and boys. This allows the comparison of a patient's degree of circumference changes, duration and number of nocturnal erections, and turgidity with normative NPT criteria.

By combining results from the foregoing procedures with a thorough physical and urological examination, 22 men with a diagnosis of organic impotence secondary to Peyronie's disease were selected for this study. Peyronie's disease is a hyalinization of the elastic

connective tissue of the tunica albuginea of the corpus cavernosum within the penis. This condition results in the formation of inelastic plaques, towards which the penis tends to curve upon erection. Erection is often painful in this condition, and surgery to remove the plaques commonly results in loss of erectile capacity. All of the current subjects complained of impotence, failed to demonstrate normal levels of NPT while being monitored, and had the presence of penile plaques previously confirmed by urological examination prior to implantation.

The other half of our sample (N = 22) were diagnosed, prior to implantation, as psychogenically impotent by similar procedures, having evidenced no organic basis for erectile dysfunction on medical and urological exam, and having demonstrated NPT levels that fell within normal limits. All NPT levels were determined in the same way as indicated earlier, in three nights of study at the Baylor College of Medicine Sleep Disorders Center.

For our organic (Peyronie's) group, the pre-surgical criteria for inclusion were: (1) clinical diagnosis of Peyronie's disease based on urological study and the presence of penile plaque; (2) inability to achieve erection suitable to facilitate sexual intercourse 50% of the time; (3) demonstration of abnormally diminished NPT. We ruled out those with other organic symptoms resulting in erectile dysfunction such as diabetes with peripheral neuropathy, lower motor neuron lesions, spinal injuries, peripheral vascular disease, and patients who have had intra-pelvic operations. We also excluded those with a diagnosable

affective or thought disorder which would make the patient at risk for post-surgical psychological decompensation. All patients were independently evaluated by a urologist and a psychiatrist in order to establish compliance with these latter criteria.

The pre-surgical inclusion criteria for psychogenically impotent subjects consisted of: (1) no evidence of organic symptomology which would cause erectile dysfunction was discovered through urologic and neurologic examination (e.g., peripheral neuropathy associated with diabetes, peripheral vascular disease, spinal injuries or lower motor neuron lesions); (2) evidence of normal NPT; (3) an unsuccessful, previous attempt to restore erectile capacity (i.e., sex therapy, psychotherapy; (4) clinical and empirical evidence of a nonpsychotic psychological disturbance judged blindly by a psychiatrist and a psychologist to be sufficient to account for the impotence, and a judgment by both of these latter clinicians that this condition was intractable to sex therapy. As with the organic group, we excluded those with an affective or thought disorder that might make the patient at risk for post-surgical psychological decompensation. All were judged to be intractable to conventional psychological intervention and to possess stable defenses and social support systems.

Pretests

All of the men in our sample ($N = 44$) had taken, as part of their presurgical psychological evaluation a number of paper-and-pencil tests, including the MMPI (Dahlstrom and Welsh, 1960) and in some cases, a test of interpersonal needs, the FIRO-B (Schutz, 1958).

The MMPI is a self-report, T-F questionnaire consisting of 566 statements dealing with observable behavior, feelings, general social attitudes and pathological symptoms. It is a general test of psychopathology, and provides insight into the subject's styles of personality defenses, nature of mental performance, degree of body preoccupation and characteristics of affect. Both the validity and reliability of the MMPI have been previously demonstrated (Dahlstrom and Welsh, 1960) and its clinical utility is widely recognized.

The FIRO-B consists of 54 self-report items to which a subject responds along a six point scale of agreement. When completed by both partners in a relationship, this test allows for the assessment of interpersonal behaviors (e.g., desire to control others, desire to be controlled; desire to express affection, degree of affection desired; desire to include others, and desire for inclusion) and may suggest areas of incompatibility. Schutz (1958) has substantiated the validity and reliability of this instrument.

Posttests

For the purposes of our study, the MMPI and FIRO-B were used in the follow-up assessment. This decision was made on the basis of: (1) their inclusion in the pretest assessment; (2) their particular relevance to the hypotheses set forth in this study (measurement of general psychopathology and interpersonal dimensions); and (3) their potential utility in evaluating impotent men as suggested by Beutler et al. (1975, 1978).

Two additional instruments were created specifically for and utilized in the current study. The Male Questionnaire consisted of 32 items covering topics such as: complications with the prosthesis; comparison of the implant assisted erections both to pre-morbid and normal erections; satisfaction with various aspects of the prosthetic device; frequency of intercourse and other types of sexual behaviors; fidelity to current sexual partner; adequacy of pre-surgical preparation; effect on relationship with sexual partner; and degree of mutuality in the decision to obtain the prosthesis. We also included a place for subjects to report their general impressions and suggestions. The majority of questions required a response along a five point semantic differential type of scale, with the additional responses, "not applicable" or "other", provided where appropriate.

The Partner Questionnaire consisted of 26 items, many of which were similar to those included in the Male Questionnaire. Items unique to the Partner Questionnaire included topics such as: changes in feelings about the recipient; changes in the duration of sexual play; effect of the device on the partner's feelings of sexual importance and desirability; and the prosthesis' effect on orgasmic ability. Responses to the Partner Questionnaire were also to be made in terms of a series of five point semantic differential type scales. Questions that were recapitulated in both questionnaires were worded as identically as possible to facilitate the comparison of patient-partner reactions to the prosthesis.

The questions included in these instruments were based predominantly on their face-validity. Most were selected in order to be similar to those used in investigations by Binkhorst-Kramarsky (1978) and Beutler (1979) in the hope that we might obtain comparable results. Appendix A contains copies of the Male and Partner Questionnaires.

Procedure

We first contacted Dr. F. B. Scott, the implanting surgeon, for the names of prosthesis recipients who had been either psychogenically impotent, or had impotence attributable to Peyronie's disease. Upon receipt of an initial list of potential subjects (N = 54), Dr. Scott sent a letter to each of these men in which he introduced the project, identified the author as part of his research group and asked for their cooperation. This contact was followed by a phone call from this author in which a brief description of the study was presented to each patient and permission was requested to send materials for both the male and his sexual partner. Upon an affirmative response (N = 44), envelopes containing a Male and Partner Packet, as well as a consent form were sent by registered mail. Ten men from this initial group declined to participate in the study.

The Male Packet consisted of a Male Questionnaire, an MMPI booklet and answer sheet, a FIRO-B questionnaire, and the consent form. The Partner Packet consisted of a FIRO-B questionnaire and a Partner Questionnaire. Successful delivery of the materials occurred in only 32 cases. The remaining envelopes were returned unopened or undeliverable. Only 11 of these 32 men (34.4%) returned completed packets within

a period of two months. Due to this low response rate, as many of the "noncompleters" were contacted by phone as possible. They were asked if they had received the packets, and if they intended to complete the forms. This contact was made with a concern for avoiding coercion of any kind, yet it was also made with an attempt to convey the importance of the patients' cooperation and participation to this study. Fifteen of the 21 "noncompleters" were contacted in this manner. The remaining men could not be reached. This contact proved to be unproductive, however. Due to this low initial response rate, an additional list of 21 patients who had been implanted within the last two years was obtained from Dr. Scott. They were contacted in the same manner as described previously. Only 12 of these men agreed to participate in the study. This group responded with less delay than the first, and six (50%) patients completed and returned their packets. All of these patients' partners returned completed data, while only six partners of the 11 completers (54.5%) in the first group returned completed packets.

The total number of males who: (1) agreed to participate in our study; (2) received materials; and (3) for whom pretest data existed equalled 44 (32 from the first group and 12 from the second group). Only 17 of our total sample of 44 males (38.6%) returned their completed MMPI, F1RO-B, and Male Questionnaire forms. Assuming that each male had a sexual partner to whom he could deliver the partner materials, a potential sample size of 44 was available for the partners as well. Only 12 of the partners (27.3%) responded by separately returning their

completed FIRO-B and Partner Questionnaire forms. Thus, the total response rates for the partners and patients fell short of the 50% response rate for which we had initially hoped.

Due to time constraints, it was decided that the study would be based on the limited sample size that was available. This was done with the knowledge that such a restricted sample size would severely limit our analyses of the data and valid generalizations. A small number of subjects not only limits the latitude of statistical manipulations one may employ, but restricts the generalizations that may be drawn from the data. The power of the statistical tests employed to discover significant differences between groups is diminished with small samples, and our interpretations of the results were formulated with this in mind.

CHAPTER 4

RESULTS

Analysis of the data was conducted in four steps. The first step consisted of a validation check designed to compare those males for whom pre- and posttest data existed (completers) with those men for whom only pretest data was available (noncompleters). The second step represented a differential evaluation of organic and psychogenic patients. These first two steps were based on pretest data alone. The third step evaluated changes following surgery, and the fourth step examined the effects on sexual partners. These latter two steps utilized either posttest data alone, or a comparison of pre- and posttest data.

A. Validation Assessment

Due to the limited number of patients who responded to our follow-up appeals, the initial task was to discover if those men who completed the study differed significantly from those who did not complete the study. We reasoned that if there were no significant or meaningful differences, we could collapse the data and then analyze it in order to determine if initial differences may have distinguished between organic and psychogenic groups. As was noted earlier, all but one of the noncompleters had pretest MMPI data but only 15 of them had completed the F1RO-B. Therefore, initial comparison of the completers and noncompleters was based predominantly on MMPI and demographic data.

Means and standard deviations of the 13 MMPI scales for non-completers (those with pretest data only) and completers (those with both pre- and posttest data), all delineated by diagnostic group, are presented in Table 1. A two-way Analysis of Variance (ANOVA) was calculated for each scale of the MMPI which compared completers and non-completers by diagnostic group. With only one exception, no significant differences were discovered (Table 2). The Ma scale was elevated to a significantly greater extent $\{F(1,39) = 5.206; p < .03\}$ among the psychogenic noncompleters than among either group of completers. Only eleven percent of the variance was explained by the interaction effects of diagnostic group by completers/noncompleters for this variable.

A t-test which compared the ages of completers and noncompleters yielded non-significant differences (t = 1.856, df = 35; $p < .10$), as did a t-test which compared years of education between the groups (t = .90, df = 40; $p > .35$). Additionally, there was not a significant difference between the groups in length of time since implantation (t = .60, df = 42; $p > .50$). As can be seen in Tables 1 and 2, completers did not differ significantly from noncompleters in terms of the personality variables measured by the MMPI (with the exception of the Ma scale) or in terms of the demographic data, regardless of diagnostic category.

An analysis of F1R0-B data (Table 2) was conducted using a similar 2x2 Analysis of Variance for each of the six F1R0-B scales. No significant differences were discovered. The wanted control (W^C) variable came closest to yielding significance, with the noncompleters demonstrating a higher mean value for this variable than completers,

Table 1. Means and Standard Deviations of Dependent and Demographic Variables.

Variable I.D.		COMPLETERS				NON-COMPLETERS			
		Psychogenic (N = 7)		Organic (N = 10)		Psychogenic (N = 13)		Organic (N = 12)	
		\bar{X}	S.D.	\bar{X}	S.D.	\bar{X}	S.D.	\bar{X}	S.D.
Age		58.33	2.80	56.60	9.50	47.73	11.04	56.50	5.99
Education		14.29	2.25	14.00	1.94	15.36	2.55	14.58	2.33
Length of Follow-up		39.43	18.85	28.90	17.27	37.33	23.73	37.17	20.73
Pretest MMPI	L	47.57	5.56	48.11	7.06	49.47	8.83	52.17	6.77
	F	53.71	3.90	50.67	5.92	58.13	13.13	53.58	5.73
	K	57.86	8.80	57.67	9.29	57.80	9.00	60.25	6.97
	Hs	50.86	9.03	55.22	6.08	57.60	10.40	59.75	10.47
	D	62.86	9.74	54.00	6.28	58.47	13.57	61.42	10.91
	Hy	59.71	8.73	62.11	6.11	61.80	8.37	63.33	8.74
	Pd	58.00	11.14	60.22	10.17	61.64	5.00	62.00	13.51
	Mf	68.71	9.27	57.22	8.51	66.53	9.47	62.08	11.09
	Pa	55.29	9.45	58.22	9.01	58.67	11.82	52.00	9.64
	Pt	59.14	13.31	51.89	7.99	59.00	12.21	55.00	9.33
	Sc	58.71	10.31	55.44	9.49	65.13	14.73	57.75	11.49
	Ma	48.86	9.15	52.89	11.24	57.47	7.67	48.75	7.84
Si	54.86	9.67	44.89	10.41	52.07	12.35	48.92	6.08	
FIRO-B (Pre)	ef	4.33	1.15	4.60	1.52	3.14	2.19	4.50	2.07
	wl	2.33	4.04	2.00	3.94	.86	1.21	3.50	3.78
	eC	3.33	2.89	1.20	2.17	3.57	2.94	1.75	2.76
	wC	1.00	0.00	1.80	1.48	3.29	1.80	3.00	2.62
	eA	2.33	0.58	3.40	0.89	2.43	1.62	5.00	3.07
	wA	4.00	1.73	5.40	2.19	4.71	2.36	5.88	2.03

Table 1--Continued

Variable I.D.		COMPLETERS				NON-COMPLETERS			
		Psychogenic (N = 7)		Organic (N = 10)		Psychogenic (N = 13)		Organic (N = 12)	
		\bar{X}	S.D.	\bar{X}	S.D.	\bar{X}	S.D.	\bar{X}	S.D.
Posttest	L	49.14	5.87	49.90	6.82				
MMPI	F	57.86	7.47	52.40	5.66				
	K	60.00	11.10	61.10	9.86				
	Hs	55.71	8.79	57.10	8.02				
	D	64.00	9.96	54.10	11.35				
	Hy	58.14	9.00	61.60	6.86				
	Pd	58.00	10.84	58.30	7.42				
	Mf	64.14	12.03	57.80	8.54				
	Pa	55.14	7.81	53.60	6.81				
	Pt	57.86	10.03	55.20	5.60				
	Sc	61.00	8.09	59.20	6.90				
	Ma	51.71	10.79	58.00	10.34				
	Si	55.29	8.01	49.70	10.47				
Residual Gain \bar{X}		- 0.23	0.55	0.17	0.79				
FIRO-B (Post)	eI	1.71	1.67	3.40	2.97				
	wI	1.14	2.42	3.10	3.42				
	eC	1.57	1.18	3.70	3.26				
	wC	3.71	2.12	2.00	1.55				
	eA	2.29	0.70	3.00	1.55				
	wA	3.29	1.39	5.30	1.55				

Table 2. ANOVA and t-test Data for FIRO-B and MMPI.

VARIABLE I.D.	ANOVA DATA				t-test DATA (Pooled Variance Estimate)		
	Sum of Squares	df	F	P	t	df	p(two-tail)
FIRO-B							
e ^l -(A)*	3.291	1	0.884	0.36	-0.22	4	.83
(B)**	2.079	1	0.558	0.46			
AxB	1.484	1	0.399	0.54			
error(residual)	70.724	19					
w ^l -(A)	6.657	1	0.622	0.44	0.11	6	.91
(B)	0.001	1	0.00	0.99			
AxB	11.056	1	1.032	0.32			
error(residual)	203.524	19					
e ^c -(A)	19.521	1	2.636	0.12	1.57	5	.18
(B)	0.775	1	0.105	0.75			
AxB	0.121	1	0.016	0.90			
error(residual)	140.681	19					
w ^c -(A)	0.330	1	0.082	0.78	-0.32	5	.76
(B)	15.165	1	3.780	0.10			
AxB	1.471	1	0.367	0.60			
error(residual)	76.229	19					
e ^A -(A)	16.520	1	3.668	0.10	-0.33	5	.75
(B)	3.587	1	0.796	0.40			
AxB	2.826	1	0.627	0.44			
error(residual)	85.581	19					

Table 2. ANOVA and t-test Data for FIRO-B and MMPI--Continued.

VARIABLE I.D.	ANOVA DATA				t-test DATA (Pooled Variance Estimate)			
	Sum of Squares	df	F	P	t	df	p(two-tail)	
FIRO-B	wA-(A)	8.184	1	1.777	0.20	0.70	5	.51
	(B)	1.765	1	0.383	0.54			
	AxB	0.071	1	0.016	0.90			
	error(residual)	87.504	19					
MMPI	L-(A)	25.981	1	0.465	0.50	0.34	14	.74
	(B)	87.660	1	1.568	0.22			
	AxB	11.553	1	0.207	0.65			
	error(residual)	2180.003	39					
	F-(A)	142.892	1	1.771	0.19	-0.64	14	.53
	(B)	133.210	1	1.651	0.21			
	AxB	5.587	1	0.069	0.79			
	error(residual)	3146.079	39					
	K-(A)	12.638	1	0.175	0.68	0.98	13	.34
	(B)	15.797	1	0.218	0.64			
	AxB	17.259	1	0.238	0.63			
	error(residual)	2823.507	39					
	Hs-(A)	105.073	1	1.169	0.29	-0.64	14	.53
	(B)	314.448	1	3.498	0.07			
	AxB	12.146	1	0.135	0.72			
	error(residual)	3506.263	39					

Table 2. ANOVA and t-test Data for FIRO-B and MMPI--Continued

VARIABLE I.D.	ANOVA DATA				t-test DATA (Pooled Variance Estimate)			
	Sum of Squares	df	F	P	t	df	p(two-tail)	
MMPI	D -(A)	86.379	1	0.706	0.41	-0.20	14	.84
	(B)	22.670	1	0.185	0.67			
	AxB	345.098	1	2.819	0.10			
	error(residual)	4773.507	39					
	Hy-(A)	35.358	1	0.522	0.47	0.71	13	.49
	(B)	28.893	1	0.427	0.52			
	AxB	2.408	1	0.036	0.85			
	error(residual)	2573.913	38					
	Pd-(A)	16.278	1	0.158	0.69	-0.30	14	.77
	(B)	71.889	1	0.70	0.41			
	AxB	8.511	1	0.083	0.78			
	error(residual)	3904.770	38					
	Mf-(A)	653.016	1	6.76	0.01***	1.41	14	.18
	(B)	23.140	1	0.240	0.63			
	AxB	108.092	1	1.119	0.30			
	error(residual)	3670.829	38					
	Pa-(A)	49.369	1	0.464	0.50	-0.79	13	.44
	(B)	10.579	1	0.099	0.75			
	AxB	262.850	1	2.471	0.12			
	error(residual)	4042.413	38					

Table 2. ANOVA and t-test Data for FIRO-B and MMPI--Continued

VARIABLE I.D.		ANOVA DATA				t-test DATA (Pooled Variance Estimate)		
		Sum of Squares	df	F	P	t	df	p(two-tail)
MMPI	Pt- (A)	350.449	1	2.952	0.10	1.16	13	.27
	(B)	33.179	1	0.280	0.60			
	AxB	15.781	1	0.133	0.72			
	error(residual)	4510.603	38					
	Sc- (A)	280.938	1	1.874	0.18	0.65	14	.53
	(B)	188.427	1	1.257	0.27			
	AxB	41.887	1	0.279	0.60			
	error(residual)	5847.634	39					
	Ma- (A)	54.332	1	0.703	0.41	0.39	13	.70
	(B)	49.476	1	0.640	0.43			
	AxB	402.314	1	5.206	0.03***			
	error(residual)	3013.729	39					
	Si- (A)	425.995	1	4.185	0.05***	0.76	14	.46
	(B)	3.790	1	0.037	0.85			
	AxB	115.080	1	1.131	0.30			
	error(residual)	3969.596	39					

*(A)=Diagnostic Group

** (B)=Completion

*** $p \leq .05$

regardless of diagnostic category $\{F(1,19) = 3.78; p < .10\}$. Nearly 17% of the variance was explained by the main effects of completers versus noncompleters for this variable. FIRO-B data is presented in Table 1.

It should be noted that the finding of significance with respect to the Ma variable may be due to alpha slippage. That is, the scales of the MMPI were subjected to numerous, repeated analyses, and the probability of a significant finding occurring by chance was increased as a result of these repeated measures. Therefore, since this was the only variable that significantly distinguished the two groups, we considered it to be justifiable to collapse the data and proceed with the next stage of our analysis.

B. Differential Evaluation of Diagnostic Groups

Examination of Table 2 reveals relatively few differences between the psychological characteristics of organically and psychogenically impotent patients. Differences were assessed by means of the aforementioned 2x2 ANOVA. Only the Mf and Si scales distinguished the groups. Almost 15% of the between group variance was accounted for by the elevated Mf scale among psychogenic patients $\{F(1,38) = 6.76; p < .01\}$. The psychogenic patients also had higher social introversion scores, but only 9.5% of the variance was accounted for by this variable $\{F(1,39) = 4.19; p < .05\}$.

C. Evaluation of Change Following Surgery

A series of t-tests computed for each of the MMPI scales, which compared the diagnostic groups in terms of pre- and posttest results failed to support a hypothesis of increased psychological disturbance among the completers (N = 16) subsequent to implantation. A similar series of t-tests were computed for the F1R0-B scales. While this data was available for only 7 completers, the results further confirmed the stability of post-surgical psychological adjustment among our patients (see Table 2).

The scale by scale comparisons referred to in the preceding section, along with a comparison of the diagnostic groups among the completers by mean residual gain scores (Table 1) averaged across the clinical scales of the MMPI failed to produce support ($\underline{t} = 1.186$, $df = 14$; $p < .30$) for the hypothesis that psychogenic recipients are more likely than their organic counterparts to psychologically decompensate subsequent to surgery. In this analysis, residual gain scores were computed by the following formula: $\{Z_{\text{pre-MMPI}} - r(Z_{\text{post-MMPI}})\}$. The "Z" scores were converted from mean MMPI "T" -scores. The residual gain score can range from approximately +3.00 to -3.00, and is an indicator of overall change in an individual's MMPI profile. The residual gain scores based upon MMPI scales yielded a Pearson correlation of .693 ($p < .002$) between the diagnostic groups, further confirming the stability of psychological features in both diagnostic groups from pre- to posttest.

Patient Satisfaction

Due to the limited number of subjects who completed the Male Questionnaires, evaluation of these data was accomplished through descriptive statistical methods and visual inspection. It was surprisingly common for men in both groups to have undergone additional surgery since the original implantation. Nearly 59% of the men (4 organic, 6 psychogenic) completing the Male Questionnaire indicated that they had undergone such additional surgery. The most frequently cited reason for the additional surgery was for repair of fluid loss in 5 psychogenic and 3 organic patients (47.1%). Other difficulties noted were: failure to inflate properly in 2 psychogenic and 3 organic patients (29.4%); bulging upon inflation in 3 psychogenic and 2 organic patients (29.4%); failure to deflate properly in 3 psychogenic and 3 organic patients (35.3%); and occasional discomfort upon inflation in one psychogenic and 4 organic patients (29.4%). It should be noted that these response alternatives did not represent mutually exclusive categories, so the percentages may reflect some overlap.

Regarding the similarity of the inflated prosthesis to their pre-impotency erections, 8 organic and 2 psychogenic patients (58.8%) rated it as "slightly dissimilar" or "exactly the same" (see Table 3).¹ Only one male (psychogenic) {5.9%} said the prosthesis had an artificial

1. Please note that the percentages reported throughout this Chapter were based on the number of individuals who responded to the various questions. These numbers fluctuated from question to question, as may be seen in Table 3.

Table 3. Questionnaire Responses.

Question ¹	Response ¹	Partner (N=12)		Patient (N=17)	
		n	%	n	%
Similarity of inflated erection to "normal" erection	Very dissimilar			1	5.9
	Somewhat dissimilar			2	11.8
	Slightly dissimilar	6	50	7	41.2
	Exactly the same	6	50	7	41.2
	Total n/Ques	12		17	
Extent of mutuality in decision to obtain prosthesis	Full participation	7	58.3	9	60
	Participated somewhat	1	8.3		
	Informed but no participation	2	16.7	1	6.7
	Not informed but had intuition about intentions			1	6.7
	Not informed, no idea of intentions			2	13.3
	Not applicable	2	16.7	2	13.3
Total n/Ques	12		15		
Rated success of device	Completely successful	8	66.7	6	35.3
	Moderately successful/few problems	2	16.7	7	41.2
	Basically successful/moderate number of problems	2	16.7	3	17.6
	Totally unsuccessful			1	5.9
	Total n/Ques	12		17	

Table 3. Questionnaire Responses--Continued

Question ¹	Response ¹	Partner (N=12)		Patient (N=17)	
		n	%	n	%
Concern for recipients' fidelity now vs. pre-surgery	Not applicable	2	16.7		
	Much more now			1	8.3
	Somewhat more now	1	8.3		
	About same	8	66.7	8	66.7
	Somewhat less now			1	8.3
	Much less now	1	8.3	2	16.7
	Total n/Ques	12		12	
Effect of prosthesis on relationship	No change in satisfaction	2	18.2	2	12.5
	Increased satisfaction moderately	1	9.1	3	28.8
	Increased satisfaction greatly	7	63.6	11	68.8
	Decreased satisfaction greatly	1	9.1		
	Total n/Ques	11		16	
Change in frequency of sexual intercourse since implantation	Not applicable	2	16.7		
	Less frequent now			2	16.7
	No change	4	33.3		
	More frequent now	3	25.0	6	50.0
	Very much more frequent now	3	25.0	4	33.3
	Total n/Ques	12		12	

Table 3. Questionnaire Responses--Continued

Question ¹	Response ¹	Partner (N=12)		Patient (N=17)	
		n	%	n	%
Change in frequency of alternate sexual behavior	Not applicable	3	33.3	5	29.4
	Much less frequent now	1	11.1	1	5.9
	Somewhat less frequent now	2	22.2	5	29.4
	No change			3	17.6
	Much more frequent now	2	22.2	2	11.8
	Other	1	11.1	1	5.9
	Total n/Ques	9		17	
Given same pre-surgical conditions, would you have implant surgery again?	Yes	12	100	16	100
	No				
	Total n/Ques	12		16	
How helpful and accurate was the information you received before the surgery in describing:					
A. Physical effects of the implant	3 - Adequate	1	10	3	17.6
	4 - Good	5	50	4	23.5
	5 - Very good	4	40	10	58.8
	Total n/Ques	10		17	
B. Appearance of the implant	2 - Poor			1	5.9
	3 - Adequate	2	20	4	23.5
	4 - Good	1	10	4	23.5
	5 - Very Good	7	70	8	47.1
	Total n/Ques	10		17	

Table 3. Questionnaire Responses--Continued.

Question ¹	Response ¹	Partner (N=12)		Patient (N=17)	
		n	%	n	%
C. Feel of the implant	2 - Poor	1	10	1	5.9
	3 - Adequate	1	10	5	29.4
	4 - Good	2	20	5	29.4
	5 - Very Good	6	60	6	35.3
	Total n/Ques	10		17	
D. Effect of the implant on your sexual and personal life	2 - Poor	1	10		
	3 - Adequate	1	10	3	18.8
	4 - Good	3	30	4	25
	5 - Very good	5	50	9	56.3
	Total n/Ques	10		16	
E. Actual aspects of the operation itself and the inherent risks	3 - Adequate	1	10	4	23.5
	4 - Good	4	40	4	25.5
	5 - Very good	5	50	9	52.9
	Total n/Ques	10		17	
	Similarity of prosthetic erections to pre-morbid erections	Very dissimilar	*		1
Moderately dissimilar		*		1	5.9
Somewhat dissimilar		*		5	29.4
Slightly dissimilar		*		5	29.4
Exactly the same		*		5	29.4
Total n/Ques				17	

Table 3. Questionnaire Responses--Continued

Question ¹	Response ¹	Partner (N=12)		Patient (N=17)	
		n	%	n	%
Satisfaction with firmness of inflated prosthesis	3 - Somewhat dissatisfied	*		1	5.9
	4 - Mostly satisfied	*		4	23.5
	5 - Totally satisfied	*		12	70.6
	Total n/Ques			17	
Satisfaction with length of inflated prosthesis	2 - Mostly dissatisfied	*		3	17.6
	3 - Somewhat dissatisfied	*		1	5.9
	4 - Mostly satisfied	*		5	29.4
	5 - Totally satisfied	*		8	47.1
Total n/Ques			17		
Satisfaction with circumference of inflated prosthesis	3 - Somewhat dissatisfied	*		1	5.9
	4 - Mostly satisfied	*		4	23.5
	5 - Totally satisfied	*		12	70.6
	Total n/Ques			17	
Imagined satisfaction of sexual partner with appearance of inflated prosthesis	3 - Somewhat dissatisfied	*		1	6.7
	4 - Mostly satisfied	*		2	13.3
	5 - Totally satisfied	*		12	80.0
	Total n/Ques			15	
Imagined satisfaction of sexual partner with prosthesis during intercourse	4 - Mostly satisfied	*		4	26.7
	5 - Totally satisfied	*		11	73.3
	Total n/Ques			15	

Table 3. Questionnaire Responses--Continued

Question ¹	Response ¹	Partner (N=12)		Patient (N=17)	
		n	%	n	%
Sexual satisfaction prior to prosthesis	Not applicable	2	16.7	@	
	Totally dissatisfied	4	33.3	@	
	Mostly dissatisfied	2	16.7	@	
	Somewhat satisfied	1	8.3	@	
	Mostly satisfied	3	25.0	@	
	Total n/Ques	12			
Sexual satisfaction with use of prosthesis	Mostly satisfied	4	33.3	@	
	Totally satisfied	8	66.7	@	
	Total n/Ques	12			
Know partner prior to implantation?	Yes	10	83.3	@	
	No	2	16.7	@	
	Total n/Ques	12			
Comparison of current sexual interactions with pre-implant interactions	Much more satisfying now	8	80.0	@	
	Somewhat more satisfying now	1	10.0	@	
	No change	1	10.0	@	
	Total n/Ques	10			
Implant's effect on ability to achieve orgasm through intercourse	Greatly increased ability	3	30.0	@	
	Increased ability	3	30.0	@	
	Didn't affect ability	4	40.0	@	
	Total n/Ques	10			

Table 3. Questionnaire Responses--Continued

Question ¹	Response ¹	Partner (N=12)		Patient (N=17)	
		n	%	n	%
Change in feelings about prosthesis recipient since implantation	Not applicable	2	16.7	@	
	No change	5	41.7	@	
	Somewhat more positive about him now	2	16.7	@	
	Much more positive about him now	3	25.0	@	
	Total n/Ques	12			
Change in duration of sexual play since implanta- tion	Not applicable	2	16.7	@	
	No change	2	16.7	@	
	Somewhat longer now	3	25.0	@	
	Much longer now	5	41.7	@	
	Total n/Ques	12			
Change in type of sexual activity engaged in due to implant	Not applicable	2	16.7	@	
	Less sex play currently includes intercourse	1	8.3	@	
	No change	3	25.0	@	
	More sex play currently includes intercourse	4	33.3	@	
	Much more sex play currently includes intercourse	2	16.7	@	
Total n/Ques	12				

¹ For actual questions and response alternatives, consult questionnaires in Appendix A.

*Asked of male only.

@Asked of partner only.

"feel" to it, while four males in the organic group (23.5%) expressed some dissatisfaction with the shape and feel of the "head" of the implanted penis. As can be seen, in terms of physical similarity between pre-morbid and prosthetic erections, many more of the organic patients (8) registered positive responses than did the psychogenic patients (2).

Mean satisfaction scores were computed for a number of aspects of the inflated prosthesis. Means and standard deviations are based on a 5 point rating scale with the lower value representing the most negative response (e.g., 1 = total dissatisfaction---5 = total satisfaction). The mean satisfaction score for: (1) firmness was 4.8 (s.d. = .66); (2) length, $M = 4.1$ (s.d. = 1.14); and (3) circumference, $M = 4.6$ (s.d. = .61). As can be seen, the patients were mostly to totally satisfied with these physical characteristics of the prosthesis.

Regarding the implant's effect on the recipients' general mood, an overwhelming number (9 organic; 4 psychogenic) of patients (76.5%) reported their mood to be "much better" since receiving the implant. This same large percentage was registered when the men were asked how their sexual ability had changed, with 7 organic and 6 psychogenic patients indicating they were "much better" now than before implantation. The difference between organic and psychogenic patients was much greater for the question regarding mood changes (9 vs. 4 respectively) than it was for the question concerning sexual ability. In addition to this information, three additional unsolicited responses (1 psychogenic; 2 organic) indicated that the prosthesis had helped improve their

marital or interpersonal relationships. Another theme that emerged in reviewing the unstructured comments on the Male Questionnaire suggested an improvement in the patients' attitudes and confidence as a result of implantation. Three of the psychogenic and 7 of the organic males (58.8%) reported that the device had restored to them a feeling of "wholeness". The largest difference between organic males and psychogenic males in this section was in regard to the question dealing with interpersonal sexual relationships. More than twice as many organic males as psychogenic males (8 to 3) reported greatly increased satisfaction.

Surprisingly, although 12 of the 16 males (75%) {6 organic; 6 psychogenic} who answered a question regarding the frequency of sexual intercourse subsequent to implantation reported a change, the remaining four individuals (25%), all of whom were in the organic group, reported no change. An absence of postoperative opportunities was the apparent reason for these latter four subjects' lack of change in this area. Several of these individuals were either widowed, separated or divorced, and had yet to find alternate sexual partners. Referring to Table 3, one can see that 10 of the 12 (83.3%) patients {5 organic; 5 psychogenic} who answered this question and 6 of the partners (50%) {2 organic, 4 psychogenic} reported a positive change in their frequency of sexual intercourse after the implantation.

When asked about other types of sexual activities in which they currently engage, the two most common responses were oral and manual masturbation. Again, one can see in Table 3 the various response rates

to a question regarding the frequencies of these behaviors (whichever ones that had been specified).

Another area of interest in this research was the degree of mutuality involved in the decision to obtain the I.P.P. As can be seen in Table 3, 5 organic and 4 psychogenic (60%) males and 4 organic and 3 psychogenic partners (58.3%) reported that it had been a "mutual decision, with the full participation of the partner." In fact, almost three fourths of the patients either told their partners outright, or were sure that their partners had some intuition concerning their intentions to obtain the prosthesis prior to the implantation. Similarly, more than three fourths of the partners were either informed or had some intuition about the mens' intentions.

A popular concern regarding the implantation may involve the frequency of extramarital or extra-relationship contacts (Binkhorst-Kramarsky, 1978). Partners of potential recipients may be concerned that with restored potency will come sexual, if not emotional infidelity on the part of their male partners. The results in the current study are somewhat ambiguous with respect to this issue. Only six males (2 organic; 4 psychogenic) responded to a question that concerned their frequency of extramarital/relationship sexual contact. Two men (both organic) {33.3%} had outside sexual contact that was more frequent now than before the implant. Two psychogenic males (33.3%) reported no change in their frequency of such contact, and two males (both psychogenic) {33.3%} engaged less frequently now in outside sexual contact than before the implant. Consulting Table 3, it can be seen that 8 patients (5 organic; 3 psychogenic) and 8 partners (4 organic;

4 psychogenic) worry "about the same now as before the implant" with respect to partner concern for patient fidelity (66.7% for both). Only one of the organic patients (8.3%) and one of the psychogenic partners (16.6%) said that the partner worries more now. Three patients (2 psychogenic; 1 organic) {25%} and one of the organic partners (16.6%) said that the partner worries less now than before the implant. The partners of the three former males were among those women who worry "about the same now as before the implant" despite what their male partners said.

In response to a question regarding the number of times they had engaged in extramarital or extra-relationship sexual contact (number of contacts reported) since the implant, 3 organic and 3 psychogenic (50%) patients indicated none; one psychogenic patient (8.3%) reported one such contact; and 5 patients (4 organic; 1 psychogenic) {41.7%} reported 10 or more such contacts. It should be noted that only 12 of 17 men (7 organic; 5 psychogenic) {70.6%} responded to this question, and of the five men who had ten or more contacts, two were separated from their wives (though not legally divorced) and one was living with a terminally ill spouse. It is also interesting to note that of these five men, four belonged to the organic group while only one was a psychogenic patient.

One very reassuring result of this study was that 100% of the men and partners who responded said they would have the implant surgery again, given the same pre-surgical conditions and information. An interesting difference between the psychogenic and organic patients was found in the unstructured comments section of the Male Questionnaire

regarding recommendations to others. Six of the organic patients (33.3%) made strong recommendations to obtain the device. None of the psychogenic males indicated such spontaneous endorsements of the prosthesis.

Finally, one interesting comment made by two patients (1 organic; 1 psychogenic) was that the prosthesis enabled them to facilitate their partners' orgasm or satisfaction even after they (the men) had achieved orgasm (a possibly unforeseen benefit of the inflatable penile prosthesis).

D. Partner Assessment and Patient-Partner Agreement

Partner Satisfaction

Data from the Partner Questionnaires were assessed in the same fashion as data from the Male Questionnaires, by visual and descriptive means. The partners were asked to compare pre-implantation vs. post-implantation satisfaction levels (see Table 3). The mean pre-implantation satisfaction rating was 1.9 (s.d. = 1.51). Six partners (50%) {4 organic; 2 psychogenic} were not satisfied; 4 partners (1 organic; 3 psychogenic) {33.3%} were satisfied to some degree; and the remaining 2 partners (both organic) indicated that the question was not applicable to them. Regarding their satisfaction after the implantation, the mean satisfaction rating rose to 4.7 (s.d. = .49) with all partners having indicated satisfaction with the device.

Five organic and five psychogenic partners (83.3% of the women who responded) were sexually active with their respective partners prior to

the implant surgery. Six of these 10 women (60%) said that the implant either "increased" or "greatly increased" their ability to achieve orgasm through intercourse. The remaining 4 women (2 organic; 2 psychogenic) reported that the implant did not affect their ability to achieve orgasm through intercourse.

As might be expected, 8 of the 10 partners (3 organic; 5 psychogenic) who answered a question regarding current sexual interactions reported greater satisfaction now than before the implant. The remaining two partners (both organic) either said that their sexual interactions were currently "somewhat more satisfying" or "about as satisfying" now as they were prior to implantation (see Table 3).

Increased satisfaction among partners was reflected in the responses of 5 partners (3 psychogenic; 2 organic) {41.7%} to the unstructured comments section of the Partner Questionnaire. These women said that the prosthesis served to bring them closer to their male counterparts both emotionally and sexually.

One might postulate that with renewed erectile capabilities would come a positive shift in the females' views or feelings about their male partners. When asked about this, 2 organic and 3 psychogenic partners (41.7%) said they were more positive about him now; 3 organic and 2 psychogenic partners (41.7%) reported no change in their feelings toward their male partners; and the remaining two partners (both organic) {16.7%} did not know their male counterparts prior to the implant (see Table 3). It seems that in our sample, receipt of the prosthesis seldom results in negative feelings toward the recipient among the sexual partners.

Of a more specific nature were some of the changes in duration and types of sexual play which seemed to accompany receipt of the I.P.P. Eight partners (3 organic; 5 psychogenic) {66.7%} reported that the duration of their sexual play was longer now than before the implant. Two of the organic partners (16.7%) reported that the duration of their sexual play was "about the same now as before"; the two remaining partners (both organic) did not know their male partners prior to the implant.

In regard to the types of sexual activity engaged in by those women who knew their male counterparts prior to implantation (N = 10), one psychogenic partner paradoxically reported that "less of their sex play included intercourse now"; 3 partners (2 organic; 1 psychogenic) said that the amount of intercourse had not changed since the implant. Six partners (3 organic; 3 psychogenic) said that "more" or "much more" of their sex play currently included intercourse (see Table 3).

When asked how the "mechanical" nature of the prosthesis had affected their feelings of desirability as sexual partners, 9 of the women (5 organic; 4 psychogenic) or 75% said that it was not affected; one organic partner (8.3%) reported that the prosthesis "slightly increased her feelings of desirability"; while 2 partners (1 organic; 1 psychogenic) {16.7%} said the device "greatly" increased their feelings of desirability.

To further investigate the issue concerning the partners' feelings of sexual importance in the presence of an "artificial" erectile capability, the women were asked to rate (1 = total agreement; 5 = total disagreement) their agreement with the following statement:

"I am no longer essential or important in arousing sexual excitement in my partner because his erections are 'artificial' and can be achieved whether I turn him on or not". The mean response was 4.4 (s.d. = 1.0). Four partners (2 organic; 2 psychogenic) {33.3%} agreed to some extent and the remaining eight (5 organic; 3 psychogenic) {66.7%} indicated no agreement. It appears that the artificiality of the implant did not result in a decrease in the sexual partners' feelings of sexual importance and desirability.

A common theme among the partners of both organic and psychogenic males that was found in the comments section of the Partner Questionnaire was the recommendation to others to obtain the I.P.P. Half of the partners (3 organic; 3 psychogenic) made such a recommendation.

Another theme elicited was concern for the safety and reliability of the device. Seven of the partners (4 organic; 3 psychogenic) {58.3%} reported concerns of this type. It seemed that such issues were not clearly resolved pre-surgically and have continued to be salient for many of the females in our study.

Patient-Partner Correspondence

As shown in Table 3, there was a considerable degree of concordance between the patient and partner responses to the questions that were recapitulated in both the Male and Partner Questionnaires. For instance, in terms of the physical similarity between the prosthetic erection and a normal erection, a great majority of patients (82.4%) and all of the partners responded that the inflated device was either

"slightly dissimilar" to or "exactly the same" as a normal erection. Interestingly, the patients were more critical of the device than the partners. For instance, 5 of the psychogenic and 4 of the organic patients (52.9%) said their prosthetic erections were shorter than their premorbid erections.

In terms of the rated success of the device, the men again seemed less enthusiastic than did the partners. Two thirds (5 organic; 4 psychogenic) of the partners but only slightly more than one third of the patients (2 organic; 4 psychogenic) rated the device as "completely successful" (see Table 3).

One of our original interests was to determine the effects of implantation on the recipients' interpersonal sexual (or marital) relationships. As can be seen in Table 3, 8 organic and 3 psychogenic patients (68.8%) and 2 organic and 5 psychogenic partners (63.6%) indicated that the prosthesis had served to "increase satisfaction greatly". Only one individual, the partner of an organic male, said the device had resulted in decreased satisfaction.

With respect to rating the adequacy of the pre-surgical information (5 = highest possible response) regarding the physical effects of the implant, a mean score of 4.4 (s.d. = .76) was reported for the patients, and a mean of 4.3 (s.d. = .68) was recorded for the partners. In terms of the pre-surgical information concerning the appearance of the implant, the patient mean was 4.1 (s.d. = 1.0) and the partner mean was 4.5 (s.d. = .85) while for the feel of the implant, the patient mean equalled 3.9 (s.d. = .97) and the partner mean was 4.3

(s.d. = 1.06). In terms of the pre-surgical information that dealt with the effect of the implant on sexual and personal life, the patient mean equalled 4.4 (s.d. = .81) and the partner mean was 4.2 (s.d. = 1.03). Finally, the pre-surgical information regarding the actual aspects of the operation and its inherent risks received a mean score of 4.3 (s.d. = .85) from the patients while the partners' mean rating was 4.4 (s.d. = .70) for this item. It appears that pre-surgical preparation ranged between being "good" and "very good" for this study. Consult Table 3 for responses to this question.

CHAPTER 5

DISCUSSION

Overall we found few, if any, striking differences between our organic and psychogenic recipients. There seems to be no change in the psychological well-being of our subjects several months post-implantation. One must remember that the men in this study were carefully screened, and no subjects who demonstrated diagnostically significant psychopathology prior to surgery were implanted. In light of this, the absence of notable, post-surgical psychological complications is not entirely surprising. Less predictable but nonetheless reassuring, are the similarly positive reactions to the implant obtained from both the organic and psychogenic recipients. Based on our findings, it seems that implantation is equally successful for males with organic and psychogenic impotence in terms of recipient perception and reaction.

With respect to the comparison of the psychogenic and organic recipients, it may be noted that both the *Mf* and *Si* scales of the MMPI are elevated to a greater degree among the former group. The elevation of these two particular scales has been noted previously in connection with psychogenically impotent penile prosthesis recipients (Beutler et al., 1975; Beutler, personal communication, 1981). The *Mf* scale tends to reflect concerns with masculine-feminine roles as well as aesthetic interests. It appears that men who are psychogenically

impotent experience on the average, more concern with sex roles and more pronounced aesthetic sensitivities than their organically impotent counterparts. The bearing that this finding has on erectile dysfunction and adjustment to a penile prosthesis remains unclear, however. The possible significance of the elevation of the Mf scale on the MMPI for psychogenically impotent males has been previously described by Beutler et al. (1975).

Additionally, psychogenic patients appear to be more socially introverted on the average than organically impotent men. Findings of Beutler et al. (1980) indicate that psychogenically impotent men tend to have relatively low sexual drive and diminished sexual knowledge. These characteristics may be linked to a tendency on the part of psychogenically impotent males to exhibit greater social-sexual avoidance than their organic counterparts. Sexual drive may very well be a motivating factor in the more general desire for social interaction, and its diminution along with a lack of sexual knowledge could conceivably inhibit an individual in social situations, causing the psychogenically impotent male to feel uncomfortable around people with greater sexual drives and knowledge. Such a situation could certainly encourage social introversion on the part of psychogenically impotent men who demonstrate the characteristics delineated above. In any case, the Mf and Si scales of the MMPI appear to have some potential as discriminating measures for organic versus psychogenic impotence. Aside from these scales, the only other MMPI scale that discriminated psychogenic from organic patients was the Ma scale, and this was only pre-surgically. As was noted, the Ma scale on the MMPI was elevated among

psychogenic noncompleters as compared with completers of either diagnostic category. Since the Ma scale tends to represent impulsive or acting-out tendencies, one might postulate that a number of the psychogenic men who initially agreed to complete the study decided more or less impulsively not to finish the task. The pre-surgical elevation of this scale among the psychogenic noncompleters in our study would be compatible with the finding of Beutler et al. (1980) that psychogenically impotent males are more prone to active ways of coping with stress than are controls or organically impotent men. It should be re-emphasized that the appearance of the Ma scale as a differentiating indicator was probably an artifact of alpha slippage, due to the repeated analyses of the MMPI data. The fact that the organic noncompleters had lower mean Ma values than did their organic completer counterparts would serve to further attenuate any conclusions about the relationship between elevation of the Ma scale and tendency to complete this study. For the most part, there are more similarities than differences among the subjects in terms of personality variables as measured by the MMPI.

Increased levels of couple satisfaction were found in our study, with respondents indicating that their relationships had been improved as a result of the prosthesis.

The hypothesis that implantation would lead to increased frequency of sexual intercourse also received support, although not as unanimously as we had expected.

It also seems that receipt of the prosthesis does lead to renewed feelings of confidence and "wholeness" in the male recipients.

A number of complications which necessitated additional surgery on the prosthesis were noted by the recipients in our study. According to Furlow (1978), 27% of the recipients of the inflatable prosthesis require additional surgery, with cylinder kinking and ballooning being among the most common problems (20% for each). Fluid loss of any kind occurred in 20% of the cases reported by Furlow. Scott et al. (1979) indicates that 42% of the recipients implanted in 1973 required additional surgery. Of the 152 prostheses implanted in 1976 and 1977, only 27 (17.8%) have failed mechanically. As can be seen from these data, our sample had a higher incidence of additional surgeries than that reported by either Furlow (1978) or Scott et al. (1979). Because our subjects were included in the Scott et al. statistics, this finding may indicate that of the many types of subjects studied, those implanted because of Peyronie's disease or psychogenic impotence account for the largest percentage of postoperative difficulties. Further research is needed to investigate this possibility.

In regard to the issue of the recipients' post-surgical fidelity, it does not appear that receipt of the prosthesis alone is responsible for sexual infidelity, nor is it responsible for any changes in the frequency of such activities. One must consider each individual and his unique circumstances separately in regard to this issue, as the reasons for sexual infidelity may be unrelated to receipt of the prosthesis (e.g., marriage to a terminally ill spouse).

Additional findings point to the fact that the men in our study were somewhat more critical of the prosthesis than their partners. One might postulate that the pre-surgical expectations of the males seeking

implantation are unrealistic, and that possibly, some of the same dynamics that caused our psychogenic males to experience erectile dysfunction initially are still operating post-implantation to make them critical of their sexual performance. Performance anxiety, the most commonly cited reason for psychogenic impotence, is often based upon such unrealistic expectations as postulated here. If a male believes that his partner wants more of him sexually than he is able to provide, that she is dissatisfied with his performance, he may become impotent. This type of projected dissatisfaction which is anticipated by the male may have occurred in our sample of males and may characterize prosthesis recipients more generally. They may believe that their partners are expecting more than they feel capable of delivering, even with the prosthesis. They may even project any negative, mechanistic views of themselves to their partners. Our findings suggest that contrary to the males themselves, the females on the whole, are extremely satisfied with the inflatable prosthesis.

The general impression from the evaluation of patient-partner satisfaction is that the implanting of the inflatable prosthesis results in increased satisfaction in various aspects of a relationship, including increased orgasmic capability among partners, increased frequency of intercourse, and increased positive feelings among partners towards patients.

As we noted in the results, there was a great deal of mutuality involved in the decision to obtain the implant. This factor would ostensibly be linked with the large percentages of men and partners

reporting increased satisfaction and satisfactory results from the prosthesis. It's logical to assume that mutuality in the decision making process leads to increased levels of satisfaction with the prosthesis, as it inevitably affects both members of the relationship. Our findings support the importance of patient-partner mutuality in the decision to obtain the prosthesis. This interpretation is consistent with that offered by Beutler (1979) and Binkhorst-Kramarsky (1978).

For those individuals who may be concerned that the "mechanical" nature of a penile prosthesis will adversely affect their sexual relations, our data may be heartening. Based on our results, it does not appear that partners of inflatable penile prosthesis recipients experience negative reactions resulting from the "mechanical" or "artificial" nature of the device.

Perhaps the greatest criticism of this study will be with respect to the small sample size involved. Failure to discover distinct differences between organic and psychogenic recipients in this study may be due to the actual absence of such differences or it may be the result of our tests' insensitivity to minor differences between these small groups. Although this is a valid criticism, it must be remembered that this study deals with a limited population to begin with, and the currently available research in this area is sparse. Thus, the need for a study which employs pre-posttest comparisons as this research does, would justify the analyses presented here, small sample size notwithstanding.

Failure to obtain any dramatically negative partner responses might have been linked with the methodology employed in contacting partners. Since the patients had control over who would receive the partner packets, overly favorable responses might have been registered by the partners. We took the precaution of including separate self-addressed, stamped envelopes for partners as well as patients to use in returning completed questionnaire forms. Partner packets were enclosed separately within the mailing envelopes and instructions were provided specifying that partners were to fill out and return their questionnaires separately. We knew of no other means by which to contact the sexual partners (legal spouses and sexual partners are not always identical), and we felt that far too little research has been conducted that examines the partners' reactions and adjustments to penile implants for our study to exclude these individuals. In view of these precautions, our results probably represent the attitudes of those partners who responded with reasonable accuracy. The responding partners' generally favorable reactions are likely attributable to factors other than patient selection.

Conceivably, some of our results might be questioned due to the use of two instruments in our study that have not been assessed for their validity and reliability (Male and Partner Questionnaire). As we noted earlier, the contents of these instruments were based to a large degree on their face validity. It seems essential to ascertain as fully as possible the personal and sexual aftermath of implantation with a penile prosthesis. To accomplish this, one must ask questions of an intimate nature; questions which deal with issues specific to

the particular population at hand. Due to the relative developmental recency of the inflatable penile prosthesis, the lack of previously validated instruments with which to study recipients is understandable. Nonetheless, since implantation of this and other penile prostheses is occurring with increasing frequency, information regarding the psycho-sexual adjustments of recipients is imperative. The need for the information gathered in this study far outweighs the potential difficulties engendered by the utilization of new questionnaires. Furthermore, these potential difficulties (lack of validity, reliability; spurious results) are reduced by the common-sense approach utilized in our creation of these instruments. Nonetheless, instrumentation is sorely needed in this area, especially of a variety which can gather data which is less susceptible to distortion and bias than direct, face validated questions.

Another criticism might address our use of a voluntary population. Many studies, including those reporting favorable results, commonly use volunteer subjects. Conceivably, the use of volunteers could result in an abundance of favorable responses. As can be seen in our results, not all of our subjects' responses were favorable. Although negative responses occur with relatively low frequency in this study, their presence serves as reassurance that the voluntary nature of our population does not invalidate our findings. Throughout this paper, the limitations imposed by our unique population have been noted and respected. We feel that a cautious approach to the interpretations of our results has been observed. Furthermore, any objection to the use of volunteers for the current study seems academic, as we are unaware

of any ethical alternatives that could facilitate research of this nature.

Finally, the question raised in the beginning of this paper may now be addressed. Based on our results, implantation of an inflatable penile prosthesis seems to be an effective and reliable treatment of organic and intractable psychogenic impotence, provided that the recipients are carefully selected and free from major psychological disturbances prior to the implantation. The acceptance of, reaction and adjustment to the inflatable prosthesis is extremely favorable for both the male recipients and sexual partners who responded to this investigation. The treatments utilized in the past to correct erectile dysfunction have been reviewed, and the inflatable prosthesis represents the most technically sophisticated approach currently available. The psycho-sexual effects of the implantation of this device on both recipients and sexual partners have been presented, and the positive results discovered have served to enhance our confidence in the efficacy of the I.P.P., when it is implanted in properly screened patients. Until an effective psychotherapeutic intervention is available to the refractory, psychogenically impotent patient, implantation provides a viable treatment for an appropriately selected individual.

APPENDIX A

COPIES OF MALE AND PARTNER QUESTIONNAIRES

Male Questionnaire

1. Please check any of the following health related problems that you have experienced as a result of the implant, and if appropriate, please include any that are not listed.
(Circle as many as necessary.)
 - 1- recurrent infection (e.g., Urethritis, Prostatitis)
 - 2- physical discomfort, always
 - 3- physical discomfort, only upon inflation
 - 4- physical discomfort, sometimes upon inflation
 - 5- none
 - 6- other, please specify:

2. What types of mechanical difficulties have you had with the device?
(circle as many as necessary)
 - 1- failure to inflate properly
 - 2- loss of fluid
 - 3- bulging upon inflation
 - 4- failure to deflate properly
 - 5- none
 - 6- other:

3. Have you required additional surgery since the implantation due to mechanical failures of the device or physical complications arising from implantation?
 - 1- Yes
 - 2- No

If yes, please relate the details regarding the surgery (i.e. nature of surgery; how long after initial implantation was the surgery undertaken; how many surgical procedures, etc.).

4. How closely does the inflated prosthesis resemble your erections before you became impotent? (circle one)
 - 1- very dissimilar
 - 2- moderately dissimilar
 - 3- somewhat dissimilar
 - 4- slightly dissimilar
 - 5- exactly the same

If your answer above was any of the choices other than "exactly the same," could you describe the differences you have experienced (e.g. prosthesis larger or smaller in length, size around, etc.)?

5. How similar is the "inflated erection" to the appearance of a "normal erection"? (circle one)
- 1- very dissimilar
 - 2- moderately dissimilar
 - 3- somewhat dissimilar
 - 4- slightly dissimilar
 - 5- exactly the same

The next few questions deal with satisfaction. Please indicate your level of satisfaction in questions six through ten by responding with the appropriate number:

- 1- totally dissatisfied
 - 2- mostly dissatisfied
 - 3- somewhat satisfied
 - 4- mostly satisfied
 - 5- totally satisfied
6. How satisfied are you with the firmness of the prosthesis when inflated?
7. How satisfied are you with the length of the prosthesis when inflated?
8. How satisfied are you with the size around (circumference) of the prosthesis when inflated?
9. How satisfied do you think your sexual partner is with the appearance of your inflated erection?
10. How satisfied do you think your sexual partner is with your inflated prosthesis during intercourse?
11. How did receiving the implant affect your mood in general? It left my mood: (circle one)
- 1- much worse
 - 2- somewhat worse
 - 3- unchanged
 - 4- somewhat better
 - 5- much better
12. How has your sexual ability changed since your implant? Is it:
- 1- much worse
 - 2- somewhat worse
 - 3- unchanged
 - 4- somewhat better
 - 5- much better

13. How often have you been able to achieve an erection (properly inflate the prosthesis) since receiving the device:
- 1- always
 - 2- many times
 - 3- several times
 - 4- once or twice
 - 5- never
14. How often have you been reluctant or feared to use the prosthesis? (circle one)
- 1- always
 - 2- many times
 - 3- several times
 - 4- once or twice
 - 5- never
- Why have you been reluctant or afraid to use the prosthesis? (circle as many as necessary)
- 1- mechanical failure
 - 2- pain
 - 3- embarrassment
 - 4- other
15. Under what circumstances have you been afraid to use the device?
16. If the implant has ever failed to inflate or deflate properly, were you embarrassed?
- 1- Yes
 - 2- No
- If so, how embarrassed? (circle one)
- 1- mildly
 - 2- somewhat
 - 3- moderately
 - 4- much
 - 5- very much
17. How did receiving the implant affect your marriage or interpersonal sexual relationship(s)? (circle one)
- 1- decreased satisfaction greatly
 - 2- decreased satisfaction moderately
 - 3- no change in satisfaction
 - 4- increased satisfaction moderately
 - 5- increased satisfaction greatly
18. Has there been any specific change in your frequency of sexual intercourse since receiving the implant? (circle one)
- 1- Yes
 - 2- No

If yes, please indicate the nature of the change by circling one of the following choices:

- 1- very much less frequent now
- 2- less frequent now
- 3- about the same now as before
- 4- more frequent now
- 5- very much more frequent now

19. What other types of sexual relations (e.g. oral; manual stimulation; individual or mutual masturbation) do you currently engage in?
20. How does the frequency of the behaviors you described in #19 compare with their frequency before the implantation? Type of activity: (circle one)
- 0- not applicable
 - 1- much less frequent now than before
 - 2- less frequent now than before
 - 3- about the same now as before.
 - 4- more frequent now than before.
 - 5- much more frequent now than before
 - 6- other, please specify:
21. Since your implant, how many disagreements about sexual matters (e.g. lack of agreement on frequency; duration; diversity of sexual relations) have you had with your sexual partner? (circle one)
- 1- many more now
 - 2- somewhat more now
 - 3- about the same now as before
 - 4- somewhat fewer now
 - 5- many fewer now
22. Please indicate the number of times you engage in extra-marital or extra-relationship sexual contacts. Be sure to indicate the number of times, not the number of people with whom you've engaged in such contacts; for example: if you had sexual contact with one woman/man three times, you would indicate "3 times"; if you had such contact with two people, twice each, you would indicate "4 times." Number of times:
23. How has the frequency of your extramarital or extra-relationship sexual contact changed since your surgery? (circle one)
- 1- much more frequently now
 - 2- somewhat more frequently now
 - 3- about the same now as before
 - 4- somewhat less frequently now
 - 5- much less frequently now

24. How much has receiving your implant caused your partner to worry about your fidelity as compared with before receiving the implant? (circle one)
- 1- much more now
 - 2- somewhat more now
 - 3- about the same now as before
 - 4- somewhat less now
 - 5- much less now
25. Do you have any specific suggestions for future prospective implant candidates?
26. What suggestions would you make to improve the implant itself?
27. Use the following scale in answering this question:
1- very poor 2- poor 3- adequate 4- good 5- very good
- Put a number by each of the following statements to indicate how helpful and accurate you found the information you received before the surgery to be in describing:
- (a) physical effects of the implant
 - (b) appearance of the implant
 - (c) feel of the implant
 - (d) effect of the implant on your sexual and personal life
 - (e) actual aspects of the operation itself and the inherent risks
28. If you could, would you have the implant surgery again, given the same pre-surgical conditions and information?
- 1- Yes
 - 2- No
- If no, why not?
29. How successful would you rate the device as being? (circle one)
- 1- completely successful
 - 2- moderately successful with a few problems
 - 3- basically successful, with a moderate number of problems
 - 4- somewhat unsuccessful with too many problems, but not a total failure
 - 5- totally unsuccessful
30. Would you contribute any other comments, thoughts or suggestions which you might have concerning the device, its effect on you and your partner(s), that were not previously solicited?

31. To what extent did your partner participate in the decision to have the implant surgery performed? (circle one)
- 1- full participation--mutual decision
 - 2- informed and participated somewhat
 - 3- informed but didn't participate in the decision
 - 4- not formally informed, but she/he had some intuition about my intentions
 - 5- not informed and had no idea of my intentions
 - 6- not applicable, partner did not know me prior to implantation.
32. Would you contribute any comments in general that you have which you feel might be helpful to us in this research?

Partner Questionnaire

1. To what extent did you participate in the decision to have the implant surgery performed? (circle one)
 - 1- full participation--mutual decision
 - 2- informed and participated somewhat
 - 3- informed but didn't participate in the decision
 - 4- not formally informed, but had some intuition about his intentions
 - 5- not informed and had no idea of his intentions
 - 6- not applicable--didn't know him prior to implantation

2. How sexually satisfied were you before your partner received the prosthesis? (circle one)
 - 0- not applicable
 - 1- totally dissatisfied
 - 2- mostly dissatisfied
 - 3- somewhat satisfied
 - 4- mostly satisfied
 - 5- totally satisfied

3. How sexually satisfied are you now that your partner has the prosthesis? (circle one)
 - 1- totally dissatisfied
 - 2- mostly dissatisfied
 - 3- somewhat satisfied
 - 4- mostly satisfied
 - 5- totally satisfied

If you are dissatisfied, would you describe why and in what way:

4. How similar is the appearance of the inflated prosthesis to the appearance of a normal erection? (circle one)
 - 1- very dissimilar
 - 2- moderately dissimilar
 - 3- somewhat dissimilar
 - 4- slightly dissimilar
 - 5- exactly the same

5. When the prosthesis is inflated, how similar is the "feel" to a normally erect penis? (circle one)
 - 1- the same
 - 2- slightly dissimilar
 - 3- somewhat dissimilar
 - 4- moderately dissimilar
 - 5- very dissimilar

When flaccid, how similar is the "feel" of the prosthesis to a normally flaccid penis? (circle one)

- 1- the same
- 2- slightly dissimilar
- 3- somewhat dissimilar
- 4- moderately dissimilar
- 5- very dissimilar

6. How much change has there been in the frequency of intercourse between you and your partner since the implantation? (circle one)

- 0- not applicable, didn't have intercourse before the implant
- 1- very much less frequent now
- 2- less frequent now
- 3- about the same now as before
- 4- more frequent now
- 5- very much more frequent now

7. Did you know your partner prior to the implantation? (circle one)

- 1- Yes
- 2- No

if yes, how satisfactory are your sexual interactions now, as compared to before the implant? (circle one)

- 1- much more satisfying now
- 2- somewhat more satisfying now
- 3- about as satisfying now as before
- 4- somewhat less satisfying now
- 5- much less satisfying now

8. How did your partner's receiving the prosthesis affect your marriage or interpersonal sexual relationship? (circle one)

- 1- decreased satisfaction greatly
- 2- decreased satisfaction moderately
- 3- no change in satisfaction
- 4- increased satisfaction moderately
- 5- increased satisfaction greatly

9. Compared to before the implant, how much do you fear your partner may be sexually unfaithful? (circle one)

- 0- not applicable, didn't know him before
- 1- much more now
- 2- somewhat more now
- 3- about the same now as before
- 4- somewhat less now
- 5- much less now

10. How did you think the operation would affect your relationship?

11. How has the prosthesis changed your views or feelings about your partner? (circle one)
- 0- not applicable, didn't know him before the implant
 - 1- much more negative about him now
 - 2- somewhat more negative about him now
 - 3- no change
 - 4- somewhat more positive about him now
 - 5- much more positive about him now
- Would you specify, if possible, the types of changes in your feelings about him?
12. How has the duration of your sexual play changed since the implant? (circle one)
- 0- not applicable, didn't know him before the implant
 - 1- much shorter now than before
 - 2- somewhat shorter now than before
 - 3- about the same now as before
 - 4- somewhat longer now than before
 - 5- much longer now than before
13. How has the type of sexual activity which you engage in with your current partner changed due to the implant: (circle one)
- 0- not applicable, didn't know him before
 - 1- much less of our sex play includes intercourse now
 - 2- less of our sex play includes intercourse now
 - 3- the amount of intercourse in our sex play has not changed
 - 4- more of our sex play includes intercourse now
 - 5- much more of our sex play includes intercourse now
- What other types of sexual relations (e.g. oral; manual stimulation; individual or mutual masturbation) do you currently engage in?
14. How does the frequency of the behaviors you listed in #13 compare with their frequency before the implantation? Type of activity
- 0- not applicable
 - 1- much less frequent now than before
 - 3- about the same now as before
 - 4- somewhat more frequent now than before
 - 5- much more frequent now than before
 - 6- other, please specify
15. How much has the "mechanical" nature of the prosthesis affected your feeling of desirability as a sexual partner? (circle one)
- 1- greatly decreased it
 - 2- slightly decreased it
 - 3- not affected it
 - 4- slightly increased it
 - 5- greatly increased it

16. Indicate the degree to which the following statement represents your feelings, by using the following scale:
 1- totally 2- moderately 3- somewhat 4- slightly 5- not at all
 "I am no longer essential or important in arousing sexual excitement in my partner because his erections are "artificial" and can be achieved whether I "turn him on" or not."
 Circle one: 1 2 3 4 5
17. Did you have sex with your partner before the implant surgery?
 1- Yes
 2- No
 If yes, how much has the implant affected your ability to achieve orgasm through intercourse? (circle one)
 1- I don't reach orgasm through intercourse
 2- greatly increased my ability
 3- didn't affect my ability
 4- decreased my ability
 5- greatly decreased my ability
18. Use the following scale in answering this question:
 1- very poor 2- poor 3- adequate 4- good 5- very good
 Put a number by each of the following statements to indicate how helpful and accurate you found the information you received before the surgery to be in describing
 (a) physical effects of the implant
 (b) appearance of the implant
 (c) feel of the implant
 (d) effect of the implant on your sexual and personal life
 (e) actual aspects of the operation itself and the inherent risks
19. If you could do it over again, would you recommend that your partner proceed with obtaining the inflatable prosthesis? (circle one)
 1- Yes
 2- No
20. What were some of your questions or major concerns regarding the prosthesis?
21. What advise or recommendations would you make to other people who were in the position you were in prior to the implantation?
 () not applicable, I didn't know him.
22. Do you have any specific suggestions for future prospective implant candidates?

23. What suggestions would you make to improve the implant itself?
24. How successful would you rate the device as being? (circle one)
- 1- completely successful
 - 2- moderately successful with few problems
 - 3- basically successful, but with a moderate number of problems
 - 4- somewhat unsuccessful with too many problems, but not a total failure
 - 5- totally unsuccessful
25. Would you contribute any other comments, thoughts or suggestions which you might have concerning the device, its effect on you and your partner, that were not previously solicited?
26. Would you contribute any comments in general that you have which you feel might be helpful to us in this research?

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