



# Assessing psychiatric risk with a focus on optimizing patient satisfaction with penile prosthesis placement—a narrative review

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**Background and Objective:** Treatment for medication-refractory erectile dysfunction (ED) is based on a shared decision-making model. The gold standard treatment for medication refractory ED is penile prosthesis (PP) placement. Patient satisfaction rates with PP are high with adequate counseling and expectation-setting. However, as with any elective surgery, patient selection is key to minimizing complications and ultimately patient dissatisfaction. Psychological well-being is an important consideration in the preoperative evaluation and postoperative management of patients undergoing PP placement.

**Methods:** We performed a PubMed literature review to identify pertinent studies for this narrative review. Specifically, we sought describe preoperative evaluation including appropriate counseling and patient selection as well relevant intraoperative and postoperative factors for patients undergoing PP placement with a specific focus on optimizing preoperative psychiatric factors and treatment-related patient satisfaction to identify pertinent articles describing ways to optimize patient satisfaction with PP.

**Key Content and Findings:** A patient's psychological state can influence the degree of understanding of their condition, affect perception of their treatment team, and limit their ability to cope with complications. All patients should undergo a thorough medical history and physical examination to screen for psychiatric health disorders, substance abuse, and chronic pain conditions. Establishing patient expectations with regards to treatment-related outcomes during the preoperative consultation will ensure congruency between the patient and performing surgeon. Patients with a more significant psychiatric distress related to their underlying sexual dysfunction may require additional evaluation and counseling preoperatively.

**Conclusions:** PP placement is associated with high levels of overall satisfaction in appropriately screened patients. Specific considerations during preoperative counseling and careful patient selection, intraoperative decision making to avoid or anticipate possible complications, and postoperative cares are necessary to ensure the best result for an individual patient.

**Keywords:** Penile implant; erectile dysfunction (ED); depression; anxiety

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## Introduction

Guidelines-based treatment options for men with erectile dysfunction (ED) include oral medications (phosphodiesterase-5 inhibitors), vacuum erection devices, intraurethral suppositories, and intracavernosal injections (1). For patients with medication-refractory ED, a penile

prosthesis (PP) is considered as the gold standard treatment by most experts (1,2). Both inflatable and malleable or semi-rigid models are available, but for the purposes of this review, PP will refer to the “inflatable” PP unless otherwise noted. Ultimately, the goal with PP is to restore and/or enhance sexual function of the penis, which at the most

basic level is to achieve and maintain adequate rigidity when desired. PP offers a reliable way to restore penile function with a greater degree of spontaneity relative to other therapies, albeit with the need for a patient to undergo a surgical procedure.

For those who treat ED, restoring the ability of a patient to achieve a hard penis is a drastic over-simplification. Patient satisfaction is the main goal with any quality-of-life intervention. It is tempting for prosthetic surgeons to quote those studies with the highest satisfaction rates, which in some series exceed 90% (3,4). Caution should be exercised here, because there are major limitations with the available data on patient satisfaction in the published literature (5). Many studies fail to disclose the way in which they defined satisfaction, or simply relied on a binary yes/no question (6). Others used non-validated scales or questionnaires (International Index of Erectile Function, Erectile Dysfunction Inventory of Treatment Satisfaction) (7). Patient populations also differ. For example, patients who are receiving an implant for ED after radical pelvic surgery as compared to those with organic sexual dysfunction (8).

PP is an elective surgery, so it is important to provide patients with an accurate picture of what their ultimate outcome will be. Aligning a surgeon's expertise with patient goals and expectations occurs through a shared decision-making process. This includes a thorough discussion of the risks, benefits, and alternative treatment options. Ultimately, patients must decide whether they desire PP surgery. Because PP placement is an elective procedure with alternative treatments, the surgeon should also be able to determine whether she/he is able to offer PP placement for a specific patient.

Psychiatric stability is an important consideration in the preoperative evaluation and postoperative management of patients undergoing PP placement. Prosthetic urologists should be as familiar navigating patients with psychiatric symptoms as they are coronary artery disease or diabetes. According to the Centers for Disease Control and Prevention, half of all individuals in the United States will be diagnosed with some sort of mental illness/disorder in their lifetime (9). Depression and anxiety are amongst the most common conditions accounting for 69 million adults in the United States (10).

Previous studies have demonstrated that the incidence of anxiety or depressive symptoms is 13.8–17.1% in men with ED (11). Failure to recognize psychiatric comorbidities may lead to surgical complications, prolonged hospital stay, readmission, and overall decreased patient satisfaction

(12–15). A patient's psychological state can influence the degree of understanding of their condition, affect interactions with their treatment team, limit their ability to cope with complications, and contribute to unrealistic expectations of surgical outcomes. This is one of the most important but often overlooked aspects of a successful PP placement.

Herein we will review pre-, intra-, and post-operative management for patients undergoing PP placement with a specific focus on psychiatric factors and ways to promote patient satisfaction. We present this article in accordance with the Narrative Review reporting checklist (available at <https://tau.amegroups.com/article/view/10.21037/tau-23-144/rc>).

## Methods

A narrative literature review was performed to describe pertinent findings use PubMed (Table S1).

## Preoperative considerations

### *History and physical exam*

The initial clinic visit is arguably the most important interaction for both patient and surgeon. Taking the time to build rapport is time well spent. Techniques for establishing positive rapport are summarized as the *ABCs of rapport building*: (I) active listening; (II) positive body language; and (III) candor (16). Given the risks associated with and irreversible nature of PP placement, a thorough preoperative history and physical should be obtained (17). Only 49.6% of prosthetic urologists routinely obtain a psychiatric history when evaluating patients preoperatively (18). This represents a missed opportunity to identify factors that may complicate the perioperative period. Providers may be hesitant to ask directly about a psychiatric diagnosis for fear of offending the patient or creating an awkward encounter. While such questions may seem invasive, they are relevant to the patient's care and preparedness for surgery. Components of a patient's psychiatric history that may warrant further investigation include past or current symptoms of major depressive disorder, generalized anxiety disorder, obsessive compulsive disorder, adjustment disorder, borderline personality disorder, and body dysmorphic disorder (15). Standardized objective screening questionnaires are useful screening tools. Examples include the Patient Health Questionnaire-9 (PHQ-9) and the

General Anxiety Disorder-7 (GAD-7) (19,20). In addition to directly querying psychiatric history, a review of current medications may indicate ongoing treatment for psychiatric conditions. A history of psychiatric comorbidities may suggest increased risk for dissatisfaction, but the more important aspect of this initial assessment is to determine if a patient has active, untreated symptoms that may require additional support (11). Patients with poorly managed psychiatric conditions may not have the psychological reserve or ability to cope with a significant complication. There are no clearly defined guidelines for determining whether additional mental health evaluation is warranted. In this context, referral to a mental health professional or engaging with the patient's established mental health care team prior to moving forward with prosthesis surgery should be guided through a shared decision-making framework supplemented by clinical gestalt from the evaluating urologic surgeon. Patients should be advised that certain psychiatric medications such as benzodiazepines (used to treat underlying anxiety) and anti-psychotics may interact with certain medications used for postoperative pain control (narcotics, neuropathic agents) causing sedation.

Assessing a patient's past medical history and laboratory values represent objective measures of health while nonverbal cues, communication style, and appropriateness are subjective components of the physical exam.

Open-ended questions that may assist in determining appropriateness for surgery include:

- (I) What are your goals of treatment for your condition?
- (II) How has ED affected your quality of life?
- (III) How have you coped with having surgery in the past?
- (IV) What are your biggest concerns with proceeding with surgery?
- (V) What do you expect as the major outcome from this surgery?

A focused physical exam will include the genitourinary and psychiatric exam. Pertinent portions of the physical exam include documenting penile length and assessing for the presence of penile plaque as seen with Peyronie's disease (1). A complete review of penile dysmorphic disorder (PDD) is beyond the scope of our review, but it is worth noting. PDD refers to a subset of patients with body dysmorphic disorder (BDD) who are pre-occupied with the size and shape of their penises (21). Many patients with medication-refractory ED and/or Peyronie's disease report

bothersome penile length loss (22). Most of these patients do not have PDD, but may still have significant anxiety related to penile size loss. Validated questionnaires for BDD can be useful to screen for the extent that penile size concerns impact a patient's quality of life extending beyond sexual activity alone (21).

Unrealistic expectations will compromise success with PP placement. It is important for all patients to understand that PP placement alone will not recover length, and most patients will actually perceive their penis to be shorter after surgery (23). Documenting preop penile length can help with patient expectation setting. PD may be anticipated preoperatively based on patient history and physical examination, but the surgeon may also be surprised intraoperatively when encountering unanticipated curvature. The latter is more common in men who have a long-standing history of medication refractory ED, as they are unable to assess and thereby report any perceived penile deformity. Many patients with PD report significant baseline psychological distress (24), including a sense of shame and social stigmatization and isolation (25). This can result in or exacerbate underlying psychiatric disorders such as depression and anxiety, leading to poor quality of life for many patients that extends beyond sexual health. Additional preoperative counseling may be necessary to ensure appropriate patient expectations after surgery.

### *Aggressive or threatening patient behavior*

Patients who exhibit aggressive, violent, or threatening behavior should be handled with care. According to the Bureau of Labor Statistics, the rate of injuries from violent attacks against medical professionals grew by 63% from 2011 to 2018, a pattern that may have been accelerated during the coronavirus disease 2019 (COVID-19) pandemic (26). Healthcare workers are five times more likely to suffer a workplace violence injury than workers overall (26). Reasons for aggression may include anger and confusion concerning a medical diagnosis and care; frustration with access to care amid staffing shortages; mental health disorders; and gender and race discrimination (27). The Joint Commission defines "violence" to include aggression that does not involve physical contact, such as bullying, humiliation, and sexual harassment, both in person and electronically (28). The advent of the online patient portal grants patients unprecedented access to providers with a level of anonymity that emboldens some to behave inappropriately. Inappropriate behavior with any member of the care team

**Table 1** CURSED Penis acronym to screen for patient-specific factors associated with dissatisfaction after penile prosthesis placement

“CURSED Penis” (15)
C—compulsive
U—unrealistic
R—revision
S—surgeon shopping
E—entitled
D—denial
P—psychiatric

should serve as a red flag that warrants further investigation.

### Substance abuse

The patient’s social history is particularly important to assess for history of substance abuse. Patients with a history of intravenous drug abuse should be advised that active drug use poses a significant risk of infection to the device due to bloodborne pathogens. Those with history of opioid use disorder may have a tolerance to narcotics, making their pain more difficult to manage in the postoperative setting (29). Setting expectations early as to the pain level to anticipate postoperatively, and for how long is an important part of preoperative counseling for any patient. Some patients recovering from addiction may prefer to avoid narcotic use altogether. Taking the time preoperatively to discuss a pain control plan using a multimodal non-narcotic regimen can pay dividends in the postoperative period. If necessary, a consult with a pain management specialist may be beneficial. Patients with a history of chronic pain and/or current narcotic use warrant a discussion with their prescribing providers to avoid the dangers of polypharmacy.

### Social support

A patient’s social support network should be considered when evaluating any surgical candidate. Social support is a predictor of a patient’s recovery expectancy, which is modifiable predictor of actual recovery after surgery (30). Greater social support is associated with lower pre-operative anxiety in patients undergoing elective procedures (31). Not all patients are partnered and may thus be relying

on friends or family to help them during the recovery process. Even if partnered, they may not have a supportive partner. We make it a habit to ask any patient presenting for PP whether they are partnered and if their partner is supportive of treating their condition. Those who identify this as a source of emotional distress or contention for their relationship should be referred to a sex therapist (1). Patients with inadequate support systems should be advised to make arrangements in advance for assistance with activities of daily living and transportation to postoperative appointments. Failure to do so may create avoidable distress and dissatisfaction for the patient. In this setting, it may be useful to offer additional support from the care team. Examples include a follow-up phone call from a care team member or a planned clinic visit within the first few days after surgery.

### Meeting expectations

Not all patients presenting for PP are good candidates for surgery either from a physical or mental health standpoint. PP is an elective surgery. Prosthetic surgeons should not feel obligated to offer surgery in these situations. There are some situations where the best decision is to ‘just say no’ for the good of the patient and surgeon. Previous negative experiences often guide future decisions when dealing with difficult patients. Trost *et al.* have previously coined the pneumonic CURSED patient to identify patients who exhibit character traits that may lead to dissatisfaction (15) (Table 1). Surgeons should trust their gut instinct in these situations and consider referring patients to another surgeon for a second opinion in patients who insist on surgery.

### Intraoperative considerations

As discussed above, a thoughtful approach to patient selection cannot be overstated. Once the surgeon and patient have elected to move forward with PP surgery, the next step in the pathway to a highly satisfied patient is the procedure itself. Most urologists have some exposure to PP during training, but few are considered specialists in sexual dysfunction. A 2015 study by Oberlin *et al.* found that 1.5% of urologists in the United States considered themselves specialists in andrology (32). These subspecialists accounted for 10% of PP placement, but the authors also found that 75% of PP were placed by urologist performing  $\leq 4$  PP per year. To our knowledge, there has never been a study showing that a specific number

of or frequency of PP is needed to become “proficient” but given the potential complexity that comes with unanticipated intraoperative findings or complications, it seems reasonable to hypothesize that greater comfort and experience may lend towards a better outcome and possibly greater overall satisfaction for patients (33). Some have even suggested that developing “prosthetic centers of excellence” may optimize outcomes (2). In this same vein, operative approach (penoscrotal, infrapubic, or subcoronal) should be dictated by surgeon comfort and experience, as there is no obvious association between satisfaction and incision-type (34). Presumably, surgeons with more experience and expertise are likely to provide more thorough and accurate preoperative counseling, although there are undoubtedly exceptions to this rule (2). This is particularly important for those patients who meet the “CURSED Penis” criteria who may present with unrealistic expectations regarding their anticipated outcome with PP surgery (15).

We do not intend to include a complete review of interoperative pitfalls and complications, suffice it to say that patients who experience an intraoperative complication are likely to experience lower rates of overall satisfaction (4). Patients with more preoperative psychological disturbance stemming from their sexual dysfunction and those with underlying mental illness may have less bandwidth to cope with surgical complications (35). Every surgeon will encounter complications, but several basic failsafe checks may be employed to identify potentially correctable adverse outcomes with PP placement. Examples include performing an artificial erection at the start to identify unanticipated penile curvature, field goal testing and corporal irrigation to look for perforation, crossover, or urethral injury, and surrogate reservoir testing to ensure appropriate seating of the corporal cylinders. Please see *Table 2* for additional details.

## Postoperative considerations

In this final section, we will review several specific aspects of postoperative care that are important to consider in psychologically complex patients.

### Communication


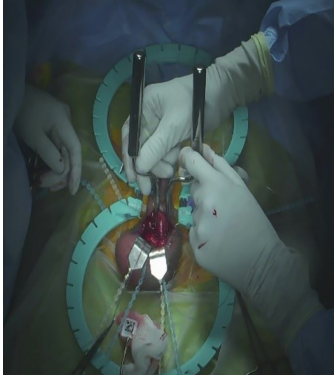
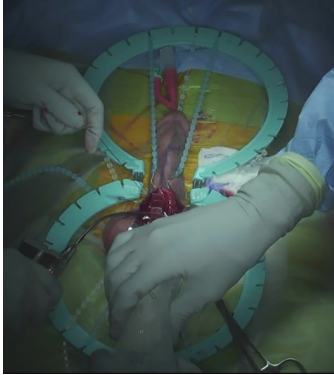

The surgeon and patient enter a specific type of relationship, and communication is the key to a productive relationship. A successful outcome is predicated on adequate counseling (see Preoperative section above).

Patients with severe psychiatric symptoms related to their sexual dysfunction may require more dedicated “face-time” with the performing surgeon. Communication during the postoperative period starts from the outset. Immediately after surgery, patients and their families should be informed of any unanticipated findings or complications during surgery. Surgical complications are associated with adverse long-term psychological outcomes for patients, but there does not appear to be any increased risk for postoperative malpractice claims when medical errors are acknowledged openly, and open disclosure is considered standard practice for physicians (35,36).

PP can be carried out safely in the outpatient or ambulatory surgery center setting (37). Those with significant medical comorbidities or who lack social support may require overnight hospital stay. Patients may also benefit from an overnight stay for additional observation in the setting of significant anxiety surrounding the procedure or in those instances where the surgeon is concerned about factors such as postoperative pain control. This must be weighed against additional costs and should be discussed with patients during preoperative counseling. Prior to hospital or surgery center dismissal, patients must be counseled on what to expect during the recovery. Common concerns that can be quelled with adequate counseling include penile and scrotal swelling or bruising, the perception that the penis is partially erect (even though the cylinders are left in the deflated position), and concerns regarding the appearance and or size of the penis immediately postop. Taking the time to discuss expectations is useful, but we find that including this information in postoperative written instructions is useful as well. Some surgeons provide patients with online resources such as videos that describe expectations during the postoperative period to further reinforce this counseling.

Surgeon practice dictates postoperative follow-up. In our experience, most patients do not require routine follow-up between the immediate postoperative period and device activation teaching (usually at 2–4 weeks depending on surgeon preference and operative approach). Psychologically at risk patients including those who display high levels of preoperative and postoperative anxiety may benefit from additional “touch points” during the early postoperative period. This could be a simple phone call or a message through the electronic medical record from a team member (trainee, advanced practice provider, nurse), but sometimes requires an in-person visit with the surgeon to provide the needed reassurance. This latter point cannot

**Table 2** Intraoperative maneuvers to identify and prevent intraoperative and postoperative complications

Intraoperative checks	Purpose	Image
Artificial erection	<p>Allows for identification of any unanticipated penile deformity such as significant curvature or indentation</p> <p>May impact surgical approach (incision, need for additional straightening procedures)</p>	
“Field goal” test	Placing dilators in bilateral proximal and distal corporal bodies to assess for symmetric dilation and evidence of crossover	
Corporal irrigation	Evaluate for potential urethral injury that can occur with distal dilation	
Surrogate reservoir testing	<p>Ensure proper sizing and “seating” of prosthesis cylinders</p> <p>Evaluate for glans hypermobility</p> <p>Evaluate for unanticipated penile deformity or curvature that may require adjunct maneuvers</p>	

be overstated. While not always pleasurable, the right thing to do is for the surgeon to take the lead on this front. This instills confidence in the patient who may be struggling and in the team who supports the surgeon's practice. There is, however, a fine line between offering the necessary support and exacerbating patients unnecessary or overblown concerns, so a delicate balancing act is required and skill in this regard comes with greater experience. "Reassurance seeking" is common in patients with anxiety or obsessive-compulsive disorders (38). In many instances, addressing concerns will be only temporarily alleviated, and the patient will continue to reach out again and again. This does not actually alleviate patient distress and may not be productive from a surgeon-patient relationship perspective.

### *Urinary catheterization and retention*

In our experience, the unanticipated need for a urinary catheter is a specific source of frustration for patients, particularly in those who have fewer coping strategies at baseline. Communication regarding the rationale for leaving a catheter or other drain can alleviate the frustration but should not replace the need for preoperative counseling. Ultimately, patients need to be informed that postoperative urinary retention can occur in up to 25% of men, and temporary catheterization may be necessary (39). On rare occasions, patients develop full blown urinary retention after PP. The need for prolonged indwelling or intermittent catheterization may be a risk factor for device erosion or infection (40). Preoperative evaluation of urinary symptoms may suggest a higher risk due to untreated or undertreated prostate hypertrophy. Patients may be (rightfully so) anxious to get their penile implant, but significant urinary symptoms should be addressed prior to PP placement.

### *Pain control*

Another concern for many patients in the immediate postoperative period is adequate pain control. As discussed in the preoperative section, it is important to identify patients who may have greater pain control issues postoperatively such as those with a personal history of chronic pain or substance use disorders. Expectation setting must be reinforced by all team members postoperatively as well. The easy thing to do is to simply prescribe more medications. However, this might not be the best thing for our patients.

Patients should understand that our goal with pain

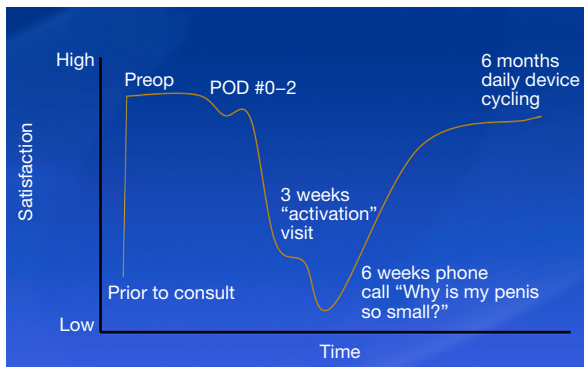
management is to create a level of discomfort that is "tolerable", but not necessarily to leave someone entirely pain free. Historical pain regimens have relied heavily on opioid medications. Given the potential risk for adverse use, abuse, and dependence, it is imperative that urologic surgeons focus on non-opioid interventions to minimize the need for opioids (41). Multi-modal approaches that include administration of local anesthetic blocks intraoperatively coupled with oral anti-inflammatories and neuropathic pain agents can dramatically reduce the need for opioids after PP placement (42). Sayyid *et al.* reported significant reductions in the need for intraoperative opioid analgesics with the use of a pudendal nerve block prior to PP placement, a practice that we have found beneficial as well (43). In those patients requiring (requesting) significant amounts of opioids, it may be necessary to engage our colleagues in primary care medicine and pain management. If multiple requests for pain medication refills are made, it is necessary to bring the patient in for evaluation and in-person counseling to rule-out postoperative complications. Communication and consistency are key—it should be reinforced that additional opioids are unlikely to mitigate the pain, and strategies aimed at reducing inflammation and avoidance of activities that exacerbate the discomfort should be employed rather than provided additional opioids.

### *Device activation*

Device activation can be a complicated endeavor for some patients. Once again, surgeon preference dictates the timing and personnel involvement. Some surgeons perform all device activation visits themselves, whereas others involve their advanced practice providers or dedicated nurses in the process. The key to success is a thorough understanding of the PP devices and common pitfalls. Patients need adequate time to learn pump operation. They must feel empowered to ask any pertinent questions during this time. Many patients will leave the initial activation visit lacking confidence in their ability to operate the PP. Follow-up visits are common and should be encouraged, although not mandated. Once again, video resources created by the surgeon and those provided by the PP device companies can be very useful.

### *Natural history of patient satisfaction*

The ultimate goal with PP is to achieve patient satisfaction through enhanced sexual function. To date, there are only



**Figure 1** The natural history of penile prosthesis satisfaction. POD, postoperative day.

two questionnaires that have been specifically designed and validated to assess PP satisfaction rates. The first questionnaire came from Caraceni and Utizi out of Italy and is known as the QoLSPP (Quality of Life and Sexuality with Penile Prosthesis) (44). The questionnaire consists of four domains (functional, personal, relational, and social), and the authors found that 85% of patients had a “positive response” suggesting some level of satisfaction with their PP. However, this study has not been validated in English, and does not address several key issues pertaining to patient satisfaction such as the ability to conceal the erection, the size of the penis, and ultimately how natural the erection looks and feels. With this background in mind, Salter and colleagues recently developed and validated the SSIPI (Satisfaction Survey for Inflatable Penile Implant) (45), a 37-item English-language questionnaire to evaluate patient-reported outcome with inflatable PP. In their validation cohort, the authors reported an overall satisfaction score of 4.15 [standard deviation (SD) 1.0] on a 5-point scale. Satisfaction scores were lowest in the “appearance” domain (mean 3.72, SD 1.0), which focuses on the appearance of the erection in both the inflated and deflated states, ability to conceal the device, and the pump location. More work is needed, but clearly the concept of patient satisfaction extends beyond the surgeon’s definition of a successful procedure.

Most patients enter this process with both enthusiasm and trepidation. The latter is undoubtedly more common in men with greater psychiatric distress related to their sexual dysfunction. In our experience, many patients are not highly satisfied during the early period after PP activation (23). Patients may struggle with confidently operating the pump. They may continue to endorse sensitivity, discomfort, or

outright pain in the genitals stemming from the procedure. They may also express concerns regarding the size and appearance of their flaccid (deflated) and erect penis. It is easy for the surgeon to feel defensive if the appropriate preoperative counseling was provided to the patient, but this does little to help the patient and should be avoided. Instead, efforts should be made to normalize the experience. Encouragement and enthusiasm can go a long way. Patients can be reassured that the body will continue to heal, and they will experience positive changes over the first several months. Patients should also be encouraged to have some “skin in the game” through daily inflation protocols and use of additional therapies such as vacuum erection devices that may optimize penile size over the first 3–12 months postoperatively (46,47). Ultimately, with adequate support and a tincture of time, the majority of patients and their partners are satisfied with their PP (*Figure 1*) (5).

## Conclusions

PP placement is associated with high levels of overall satisfaction in appropriately screened patients. Patients with active psychiatric symptoms may be better served by optimally evaluating and treating their psychiatric disorder preoperatively. Specific considerations during preoperative counseling and careful patient selection, intraoperative decision making to avoid or anticipate possible complications, and postoperative cares are necessary to ensure the best result for an individual patient.

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**Table S1** The search strategy summary

Items	Specification
Date of search	February 2023
Databases and other sources searched	PubMed
Search terms used	Penile prosthesis, penile implantation, mental health, male impotence, erectile dysfunction
1978–2023	Duration of database search function
Inclusion criteria	English language
Selection process	MZ, HB, SH