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INTRODUCTION

Presurgical Psychological Assessments—Historical Perspectives and Current Status

RYAN J. MAREK AND ANDREW R. BLOCK

Presurgical psychological assessments (PPAs), a practice that includes thoroughly evaluating psychosocial factors that may affect (positively or negatively) postsurgical outcomes (Block & Marek, 2020), are becoming increasingly common across the United States and in other countries. One may ask, “Where does psychology fit into surgery?” To help answer this question, let’s briefly discuss a few cases.

Case 1: A 53-year-old woman presented at the clinic for a spinal cord stimulator assessment. She had two previous spine surgeries that she stated “did not go well.” During her visit, she reported only being able to stand for 15 minutes, she was unable to walk, and she slept in a recliner chair. She also reported taking a high dose of hydrocodone six times per day. She stated she is unable to go back to work because of her back pain and is currently receiving disability benefits. She shared that her husband is her primary caretaker but that he is severely diabetic and has a great deal of difficulty walking as a result of neuropathy in his feet.

The patient had undergone a spinal cord stimulator trial before the evaluation and reported about a 50% reduction in her pain. Even though she

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expressed to the surgeon that she was uncertain about stimulator, the surgeon convinced her to undergo the permanent implant. Despite working with the manufacturer's representative to obtain a beneficial stimulation pattern, she reported limited pain change and dissatisfaction with the permanent implant. Several months later, she had the stimulator explanted.

Case 2: A 42-year-old woman presented at the clinic to be evaluated for bariatric surgery. Her body mass index was 66 kg/m², and she had numerous medical comorbidities, including Type 2 diabetes, obstructive sleep apnea, and hypertension. Her medical chart documented numerous instances of non-adherence, including not adhering to use of her CPAP (continuous positive airway pressure), not checking her blood sugar, and not attempting to make dietary changes. During a presurgical visit, she did not understand the post-operative regimen of a Roux-en-Y gastric bypass and thought she would “just be able to eat less.” She reported a number of symptoms related to depression, such as depressed mood, anhedonia, lethargy, death ideation, and worthlessness, despite being on antidepressants. The surgical team felt her uncontrolled medical comorbidities needed to be addressed quickly and expedited her for surgery.

At her 3-month postoperative appointment, the patient's weight trajectory demonstrated a fair amount of weight loss, and her hemoglobin A1c levels returned to normal; however, she was quite tearful at her appointment. She reported she was in the emergency department because of dehydration; reported numbing from her waist down following surgery; was picking and nibbling on sweets, leading to multiple instances of *dumping syndrome*, a constellation of symptoms, such as diarrhea, nausea, light-headedness, and/or fatigue after a meal, that is caused by rapid gastric emptying; and reported that her depression had gotten worse. She said she regretted having bariatric surgery.

Case 3: A 59-year-old man reported to the clinic to be considered for a liver transplant. The patient was a high-profile business leader with a history of alcohol use disorder that led to cirrhosis. He would drink five to six scotches at a business outing or at home, and he drank these excessive amounts almost daily. He reported he often drank to cope and to socialize with some of his business partners. He insisted he was “not crazy” and was “not an alcoholic anymore.” He stated he had not had many drinks since his liver started to fail, and he denied using other substances, including nicotine. His toxicology screen demonstrated positive results for tobacco and marijuana use.

During a follow-up session, he insisted that his friend, who had driven him to the appointment, had been smoking both cigarettes and marijuana,

and thus he had inhaled both. He was referred for substance use treatment but insisted he was sober and did not need to go. He eventually received a new liver. Three years following his liver transplant, he returned to the clinic to be considered for another liver transplant. He indicated that he lapsed back into drinking when he had returned to work but stated that he would “do better this time.”

These three cases highlight complex, although not uncommon, scenarios seen in surgical settings. In all instances, the surgical procedures were done correctly. The surgeons attended to the patients’ medical problems but minimized the significance of psychosocial functioning. In each case, the consequences were detrimental. The patients did not fully benefit from the procedure and even experienced worsening of symptoms. They experienced increased emotional distress and became dissatisfied in the level of care provided. Unfortunately, in such situations of failed surgical procedures, patients may become angry or feel they were victims of negligence, sometimes even threatening lawsuits for unsuccessful surgical results. Often, additional surgical interventions may be required, costing insurance providers tens of thousands of dollars.

Although all three cases had chronic and severe medical comorbidities, psychosocial factors were prevalent and likely contributed to their poor outcomes. In Case 1, the patient’s primary caregiver was also disabled, contributing to and exacerbating the patient’s pain-behaviors. The patient reported quite a bit of stress and hesitancy about the spinal cord stimulator and was on a heavy dose of opioids. Further, after multiple spine surgeries, she was still experiencing debilitating pain.

The patient in Case 2 had severe medical comorbidities that have been well documented to improve after bariatric surgery (Syn et al., 2021), but she also had numerous psychosocial concerns. For instance, her depression was not alleviated by her current psychotropic regimen, and the way antidepressants are absorbed after bariatric surgery (Roerig et al., 2012) is a cause for concern because antidepressants are not well absorbed following a procedure like the Roux-en-Y gastric bypass. Further, many patients continue to report a sense of loss of control of their eating, and they overeat after surgery (Conceição et al., 2015). Had these issues been addressed before surgery, it is possible the patient’s quality of life would have been improved.

Case 3 demonstrates how important psychology can be for a transplant team. The patient was being considered for a liver transplant and insisted to all his providers that he had stopped drinking. However, his toxicology screen demonstrated that he had nicotine and marijuana in his system. Despite the recommendation to have substance use treatment, he opted not

to adhere to that recommendation. He eventually had a liver transplant but was back in the hospital a few years later with problems related to alcohol and his liver. This case demonstrates the importance of addressing underlying psychosocial functioning. In addition, having psychological testing that incorporates methods of detecting underreported behaviors could have benefited this patient and the care team. Greater focus on psychosocial factors, such as untreated substance abuse, may have prevented the failure of his transplanted liver.

BENEFITS OF PRESURGICAL PSYCHOLOGICAL ASSESSMENT

All three cases could have benefited from having a PPA. Indeed, the practice is becoming more common in the United States, and some insurance providers now require PPAs to be conducted before covering elective surgical procedures. These PPAs can be thought of as a risk assessment to protect all stakeholders: the patient from having a poor outcome, the surgeon from liability for failed outcomes, the hospital's reputation, and the insurance provider from the expense of additional hospital visits or revisions of surgery.

An example of the values of PPA can be seen in the case of spine surgery. Approximately 10% to 40% of elective spine surgery patients report sub-optimal outcomes to some degree, such as reporting limited pain relief, ongoing functional impairment, and emotional dysfunction (Atlas et al., 2000; Marek et al., 2021; Turner et al., 1992, 2004). As a result, many of these patients become medication dependent or are unable to return to work (Armaghani et al., 2014; Khan et al., 2019). In cases of failed spine surgery, insurance providers incur significant costs with no benefit and with ongoing obligations to cover subsequent treatment costs (Elsamadicy et al., 2017), and surgeons often have to deal with dissatisfied patients (Soroceanu et al., 2012).

THE CHANGING ROLE OF MENTAL HEALTH IN WORKING WITH SURGICAL CANDIDATES

The past 50 years have seen a paradigm shift in the role of mental health in medical settings. Initially, surgical teams would call on psychologists and other behavioral health specialties to understand if a patient had the capacity to understand informed consent. In some cases, psychologists and other behavioral health specialties simply would provide psychoeducation to groups

of patients before they had surgery to help them cope with possible post-operative difficulties. As time moved forward, research on psychosocial factors and their ability to predict outcome began to accumulate. In some instances, psychosocial factors accounted for more variance in outcomes than medical risk factors (Block et al., 2001). Psychologists and other behavioral health specialties began being used by surgical teams to evaluate patients *before* surgery to help identify risk factors that could impede surgical outcomes.

The overall goal of PPA is to provide recommendations to both the surgical team and the patient regarding a prognosis of how psychosocial factors may affect surgical outcomes. If adverse factors are identified, psychologists work with the patient and the medical team to develop presurgical treatment interventions and recommendations, recommend postsurgical follow-ups, or discuss whether surgery is the best treatment option at that time.

Despite a growing number of clinical health psychologists who conduct a presurgical assessment, methods of conducting the assessment vary widely among practices. For instance, a survey of presurgical bariatric assessment practices suggested that only around a third of providers use some form of psychological test or symptom inventory in their practice (Bauchowitz et al., 2005). Of those, 55% of psychologists use a few symptom measures, notably the Beck Depression Inventory–II (Beck et al., 1996) and the Beck Anxiety Inventory (Beck & Steer, 1993), whereas only approximately 30% use a broadband test that includes validity scales and broader assessment of psychosocial factors, such as the Minnesota Multiphasic Personality Inventory–2 (Butcher et al., 1989), as part of their assessment (Bauchowitz et al., 2005). Some medical societies, such as the American Society for Metabolic and Bariatric Surgery, have provided recommendations on the type of information that should be gathered as part of a presurgical psychological assessment (Sogg et al., 2016), whereas other surgical areas have offered no formal recommendations.

Perhaps a major reason for the limited use of PPA is that many physicians view surgical success as limited to correction of the patient's medical problem. In the case of spine surgery: Did the bones fuse properly? In the case of bariatric surgery: Was the gastric bypass successfully completed? However, in almost all of the surgeries reviewed in this book, patients expect a great deal more. Depending on the type of surgery, patients may envision improvement in their overall function and health, reduction in their physical pain, or elimination of medications. They may expect great improvement in lifestyle and the ability to return to work. For many whose physical conditions have created greater emotional upheaval, reduction in depression and anxiety as well as improved relations with family and friends may be desired. Even,

as in the case of gender embodiment, patients may see the surgery as the means to recovering their identities. And certainly, no surgical candidate is counting on worsening physical, mental, or emotional functioning. It is unfortunate that one of the most underrecognized values of PPA is the ability of this process to determine the full range of patient outcome expectations, discuss the plausibility of these expectations, and anticipate how psychosocial factors may influence events so that reasonable expectations can best come to fruition.

This book comes at a time when PPAs have become more routine and are being required in surgical practices. A surge in examining psychosocial factors and their relations to postoperative outcomes has occurred in the empirical literature. The overall goal of this text is to provide a foundation for the development of empirically based methods for conducting PPA. We anticipate that readers who are licensed behavioral health professionals or trainees in the area of clinical health psychology who are aiming to begin the process of PPA will be in the best position to apply and build on the methods presented in this book. In addition, we believe readers who are already well versed in PPA practice will also benefit from this book because many of the chapter authors are the experts leading the research in their respective areas. Further many of these authors present updated empirical work in their areas that can serve as good updates for the reader's practice.

ORGANIZATION OF THE BOOK

Chapter 1 presents a flexible model—we call it the *risk identification and mitigation model*—for the conduct of PPA across a broad range of medical conditions. Chapter 2 reviews psychometric considerations for both the clinical interview and psychological testing, including considerations for telehealth-based evaluations. Chapter 3 illustrates the importance of PPAs' ethical and legal foundation, including the increased movement toward assessment practices via telehealth.

Chapters 4 through 11 focus on empirical foundations and the review of psychosocial factors in specific surgical areas in which PPAs are routinely conducted. Chapter 4 examines psychopathology that is commonly assessed among bariatric surgery patients and how these factors are associated with poorer outcomes. The authors also review recommendations to mitigate risk factors.

Chapter 5 reviews the best available research evidence for the use of PPA in spine surgery interventions. It also provides a rubric of PPA best practices for psychologists.

Chapter 6 discusses and critiques the history of mental health evaluations for gender care surgeries, identifies and discusses multiple surgery options for gender care, and reviews affirming practices. The chapter includes sample assessment letters for insurance coverage and coordination of care with surgeons.

Chapter 7 provides common psychological outcomes following breast surgery in the setting of cancer treatment or prevention. The author also reviews assessment domains and procedures that are relevant to the psychosocial care of this population.

Chapter 8 examines the psychosocial, behavioral, psychiatric, and cognitive factors related to transplant outcomes and posttransplant quality of life. The authors review guidelines for using evidence-based practices in assessing these factors, conceptualizing the patient experience, and implementing effective treatments to assist mental health and medical transplant providers in optimizing transplant candidate selection and postoperative outcomes.

Chapter 9 discusses how to assess and select patients for deep brain stimulation (DBS) surgery, focusing on cognition, behavior, mood, and expectations. The authors review outcomes of DBS not only in terms of targeted functions but also in terms of cognition and patients' lived experience.

Chapter 10 takes a close look at the psychological outcomes and risk factors associated with commonly performed gynecologic surgeries, such as hysterectomy, and those of less common but more radical procedures for life-threatening conditions, including gynecologic cancer. The chapter briefly covers emerging procedures, such as uterine transplantation.

Chapter 11 provides a road map for understanding the evolution of postoperative patient outcomes for temporal lobectomy over time—over and above static measures of success, such as seizure freedom or recurrence. It offers guidelines for evaluating and counselling patients around these issues.

The concluding chapter, Chapter 12, offers practical tips for conducting PPA and provides information on future directions in the field of psychosocial evaluations of patients facing surgeries or other treatment for acute or chronic medical conditions.

It is our hope that this book provides a comprehensive overview of the current state of PPA. We also hope it points to areas in which further research should be conducted to solidify the empirical basis of PPA within specific types of surgery.

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