

MMPI 2 RF[®]

Minnesota Multiphasic
Personality Inventory-2
Restructured Form[®]

User's Guide for the Spine Surgery and Spinal Cord Stimulator Candidate Interpretive Reports

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MMPI-2-RF (Minnesota Multiphasic Personality Inventory-2-Restructured Form) User's Guide for the Spine Surgery and Spinal Cord Stimulator Candidate Interpretive Reports

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Chapter 1

Introduction

The Minnesota Multiphasic Personality Inventory-2-Restructured Form® (MMPI-2-RF®) Spine Surgery Candidate Interpretive Report (Spine-CIR) and Spinal Cord Stimulator Candidate Interpretive Report (Stim-CIR) are intended for use by professionals qualified to interpret the MMPI-2-RF in the context of presurgical psychological evaluations of patients being considered for these procedures. The reports focus on identifying potential impediments to successful surgical results; they do not convey potential strengths. The information contained in the reports should be considered in the context of the test taker's background, the psychosocial risk factors for adverse surgical outcomes, the clinical interview, findings from supplemental tests, and other relevant information.

This user's guide provides information about the validity of the Minnesota Multiphasic Personality Inventory® (MMPI®; Hathaway & McKinley, 1943), the MMPI®-2 (Butcher, Dahlstrom, Graham, & Tellegen, 1989; chapter 2), and the MMPI-2-RF (Ben-Porath & Tellegen, 2008/2011a; Chapter 3) in presurgical evaluations of candidates for spine surgery and spinal cord stimulator implants. It is a companion to the *MMPI-2-RF (Minnesota Multiphasic Personality Inventory-2-Restructured Form) User's Guide for Reports, Second Edition* (Ben-Porath & Tellegen, 2008/2011b), which provides information about and directions for using the MMPI-2-RF Score Report and the MMPI-2-RF Interpretive Report: Clinical Settings. The MMPI-2-RF Spine-CIR and Stim-CIR contain all the information provided in the Score Report (raw and standard T scores for the 51 scales of the instrument, unscorable and critical responses at the item level), as well as all information contained in the Clinical Settings Interpretive Report other than the Treatment Considerations section. The option to generate User-Designated Item-Level Information (described in Chapters 4 and 5 of this document) is also available for the Spine-CIR and Stim-CIR. An important feature of these reports is the use of data from comparison groups made up of individuals assessed as part of presurgical evaluations for spine surgery and spinal cord stimulator candidates.

The Spine-CIR and Stim-CIR are distinguished from the Score Report and the clinically oriented Interpretive Report by their focus on the implications of MMPI-2-RF findings for the assessment of surgical candidates. The reports provide guidance on identification and interpretation of a test taker's scores when they deviate substantially from those of the relevant comparison group, as well as a description of empirical correlates of such findings. The correlates are based on a comprehensive series of seven empirical investigations conducted to guide development of the reports. These studies (described in detail in Chapter 3) provide cross-sectional correlations between MMPI-2-RF scores and results on commonly used measures in presurgical evaluations, as well as findings of prospective prediction of postsurgical outcomes.

Detailed information about the structure and content of the Spine-CIR and Stim-CIR is included in Chapter 4. Chapter 5 provides instructions for interfacing with Pearson scoring systems to generate the reports. This current chapter continues with a description of the structure and process of presurgical psychological evaluations of spine surgery and spinal cord stimulator candidates, followed by a review of the benefits and proper use of interpretive reports in these evaluations and a discussion of user qualifications. It ends with a brief overview of the MMPI-2-RF.

Structure and Process of Presurgical Psychological Evaluation

Presurgical psychological evaluation (PPE), also known as presurgical psychological screening, is a risk-assessment procedure (Block & Sarwer, 2013) used to determine whether, and to what extent, psychosocial factors may impact the outcome of surgery. It is most effective when performed prior to the decision to operate and often plays a key role in deciding whether to operate, delay the surgery, or seek alternative, nonsurgical treatment strategies. The information obtained in the PPE allows the evaluator to determine treatment plans that can mitigate psychosocial risk factors for reduced surgery results and maximize the patient's likelihood of obtaining good outcomes. PPE also assists the surgeon in individualizing treatment plans to meet the patient's needs, concerns, and expectations. While most widely used to assess spine surgery and spinal cord stimulator candidates, PPE is increasingly included as a component of the surgical diagnostic process for a wide range of surgeries, including organ transplantation, bariatric surgery, deep brain stimulation procedures, and stem cell transplantation (see Block & Sarwer, 2013).

Recognition of the role played by psychosocial issues in the outcome of spine surgery and spinal cord stimulation is expanding rapidly, and assessment of psychosocial risk factors in surgical candidates is now mandated or strongly suggested in many states by numerous insurers, including Medicare, Blue Cross/Blue Shield, Cigna, Aetna, and workers' compensation. Further, a number of medical/surgical societies now include evaluation of psychosocial status in their spine surgery guidelines. These include the North American Spine Society, the American Pain Society, and the International Society for the Advancement of Spine Surgery (see Appendix A). Many surgeons have a limited ability to recognize psychosocial risk factors in their patients (Daubs et al., 2010; Grevitt, Pande, O'Dowd, & Webb, 1998). Thus, in order to comply with recommended treatment guidelines and ensure that patients do not have a high level of psychosocial risk, surgical candidates often undergo formal presurgical psychological evaluations.

First described by Block (1996) and more recently articulated by Block and Sarwer (2013), PPE is a multistep process:

1. A diagnostic interview designed to elucidate psychosocial risk factors for reduced surgery results and to identify strengths the patient brings to the surgical process.
2. Psychometric testing using instruments that have shown strong, empirically determined value in identifying risk factors and predicting surgery effectiveness.
3. A review of the medical records to examine the patient's prior treatments, medication use, compliance, and alternative treatments that may have been suggested for the patient's condition.
4. Integration of data from the above three sources to establish an objective, empirically based determination of the likelihood that psychosocial risk factors and vulnerabilities may negatively impact surgery outcome.
5. Completion of a comprehensive report detailing psychosocial risk factors and patient strengths and assets, specifying treatment plans, and providing treatment suggestions to the surgeon.

Psychometric testing is a useful tool for identifying psychosocial risk factors that can impact surgery results. It provides objective, unbiased assessment of patients' emotional states, personality characteristics, coping patterns, and expectancies. It can also provide information on the extent to which symptom complaints are accurate reflections of a patient's feelings and characteristics, or whether the candidate may be overstating or minimizing such reports. Most importantly, psychometric test results can be empirically evaluated by comparing them with surgical outcomes and separating those factors associated significantly with surgical outcome from those with minimal to no association. When striving to provide evidence-based services, evaluators should include comprehensive, empirically proven psychometric testing in the PPE of surgical patients.

Using Interpretive Reports in Presurgical Evaluations

Psychological assessments can provide information critical to understanding a patient's suitability for surgery and creating a plan to maximize surgical outcomes. Comparison of patients' test scores with general population norms enables assessment of general psychological functioning, identification of psychopathology symptoms, prediction of behavioral tendencies, and characterization of personality traits.

The MMPI-2-RF software-based reports provide the innovative option of including comparison group data in the report output, which can be used to compare the test taker's scores with those of individuals tested in a similar setting and under similar circumstances. This option can provide unique information in a presurgical evaluation of spine surgery and spinal cord stimulator implant candidates who do not represent a cross-section of the general population or that of individuals typically assessed in mental health settings. Patients referred for PPEs likely have already been diagnosed with medical conditions that may be amenable to surgical intervention, and they are aware that the evaluation findings will impact the surgeon's decision to perform the proposed procedure. Thus, these individuals present to the assessment with specific types of medical problems (e.g., substantial back pain that has not yet been treated successfully) and common demand characteristics (e.g., a desire to "pass" the evaluation). By incorporating comparison group findings, the Spine-CIT and Stim-CIR allow the evaluator to consider these unique medical and demand characteristics by comparing a patient's scores with those of a sample of individuals who share these features. The reports provide quantitative information on how the test taker's MMPI-2-RF scores compare with those of a similar cohort and offer guidance on the interpretive implications of these findings in relation to presurgical risk factors, postsurgical outcomes, and treatment recommendations.

Automated interpretation can reliably link setting-specific findings to a candidate's test scores at levels warranted by empirical findings. This aids test users by ensuring that they are able to identify all scale scores known to be associated with surgery-relevant outcomes and by providing an empirically supported, comprehensive list of adverse outcomes associated with a given test taker's scores. Snyder, Widiger, and Hoover (1990) observed that computerized interpretive narratives, when developed on a broad actuarial foundation of empirical findings relating test scores to relevant external criteria, offer several distinct advantages that include (1) economy of processing and more effective use of professional resources; (2) accuracy and consistency of scoring and implementation of interpretive decision rules; and (3) virtually unlimited capacity for storage, indexing, and retrieval of relevant information from the clinical and research literature regarding test-behavior relationships.

Bow, Flens, and Gould (2010) recommended that six questions guide a psychologist's decision of whether to rely on computer-generated test interpretations in high-stakes evaluations: (1) Is the program an actuarial interpretation program (or simply an automated interpretation)? (2) Does the program consider response style when offering the statements? (3) Is the level of significance used for cutoff scores known? (4) Are different statements used depending on the degree of elevation? (5) Does the program consider the profile configuration or combination of elevated scales (versus single-scale elevations)? (6) Does the program use context-specific normative data? These questions guided our development of the Spine-CIR and Stim-CIR.

Even empirically supported automated interpretive reports require that users exercise clinical judgment. As noted in the opening paragraph of this chapter (and stated in the reports), the Spine-CIR and Stim-CIR focus on identifying problems and do not convey potential strengths. The information contained in the reports should be considered in the context of the test taker's background, the surgical risk factors identified in the literature, the clinical interview, findings from supplemental tests, and other available information. Test users are encouraged to examine other sources of data about the candidate to ascertain whether, and to what extent, propensities of one type may be balanced by compensatory characteristics of another, or the degree to

which interpretive statements contained in the report are consistent with findings from other sources. Such collection and use of data from multiple sources is the defining characteristic of psychological assessment (Meyer et al., 2001).

Spine-CIR and Stim-CIR User Qualifications

Users of the Spine-CIR and Stim-CIR must first be qualified to use the MMPI-2-RF test. As described in the *MMPI-2-RF User's Guide for Reports, Second Edition* (Ben-Porath & Tellegen, 2008/2011b), the requirements for use of the MMPI instruments adopted by the publisher, the University of Minnesota Press, and the distributor, Pearson, are:

User has a licensure to practice psychology independently, or user has completed a doctoral (or in some cases master's) degree program in one of the fields of study indicated for the test that included training (through coursework and supervised practical experience) in the administration and interpretation of clinical instruments, or completion of an APA-approved workshop or other approved course. If neither of these qualifications is met, users must provide proof that they have been granted the right to administer tests at this level in their jurisdiction (p. 2).

Ben-Porath and Tellegen (2008/2011a) note that in addition to these minimal qualifications, competent use of the MMPI-2-RF requires graduate-level training in psychological testing and assessment with a specific emphasis on basic psychometrics; graduate-level training in the areas of personality and psychopathology; graduate and/or continuing education training in the use of the MMPI instruments; supervised experience in the administration, scoring, and interpretation of the test; and familiarity with the current professional literature concerning the instrument. Competent use of the computer-generated MMPI-2-RF reports requires similar knowledge and experience.

Users of the Spine-CIR and Stim-CIR should also be thoroughly familiar with material in the two manuals for the MMPI-2-RF (Ben-Porath & Tellegen, 2008/2011a; Tellegen & Ben-Porath, 2008/2011) and the *MMPI-2-RF User's Guide for Reports, Second Edition* (Ben-Porath & Tellegen, 2008/2011b). The first of the two manuals, the *MMPI-2-RF Manual for Administration, Scoring, and Interpretation* (Ben-Porath & Tellegen, 2008/2011a), provides an overview of the instrument, information about the intended uses of the test and user qualifications (just described), a description of the normative data and the method used to derive standard scores, procedures for administering and scoring the instrument, and detailed guidelines for interpreting scores. The *MMPI-2-RF Technical Manual* (Tellegen & Ben-Porath, 2008/2011) includes discussion of the rationale for developing the test, a description of the methods used to construct the 51 scales of the instrument, and detailed psychometric findings including reliability, validity, and descriptive data on MMPI-2-RF scores obtained in various settings. The *MMPI-2-RF User's Guide for Reports, Second Edition* provides information about the MMPI-2-RF Score Report and the MMPI-2-RF Interpretive Report: Clinical Settings. Elements of both these reports are incorporated in the Spine-CIR and Stim-CIR.

Spine-CIR and Stim-CIR users should have basic competence in the conduct of presurgical evaluations. First, users should maintain up-to-date knowledge of psychosocial risk factors associated with reduced surgical outcome—the psychologist must keep up with both the empirical and clinical literatures, incorporating these into evaluations. Second, the psychologist should have knowledge of both the proposed surgical procedure and the requirements for successful surgical outcome. Such knowledge should include review of relevant medical literature, discussions with surgeons, and, if possible, observation of surgeries, so that the psychologist can be involved in the surgical diagnostic process with specific knowledge, credible observations, and relevant vocabulary. Third, it is critical to use a systematic process for PPE to avoid missing crucial information or basing decisions on factors such as intuition, rapport, or pressure from the patients. In other words, the

specific information sought and the way it is used to form decisions about surgical risk factors and recommendations, as well as any individualization of the treatment plan, must be as detailed, systematic and concrete as possible. The Spine-CIR and the Stim-CIR are significant and objective information sources, but the report(s) should be supplemented by a specifically tailored diagnostic interview, clinical observation, and perhaps additional testing. Finally, the psychologist must recognize his/her responsibility to patients—making decisions with great care for both short- and long-term impact on the patient. The psychologist should provide information to the patient about the basis for decisions made, especially when the suggestion is to delay or avoid surgery, and should explain why such decisions are in the patient’s best interest (see Block & Sarwer, 2013, for a discussion of the ethical issues involved in PPE).

The MMPI-2-RF

The MMPI-2-RF (Ben-Porath & Tellegen, 2008/2011a; Tellegen & Ben-Porath, 2008/2011) is a 338-item self-report measure of personality and psychopathology. Its development began with Tellegen’s restructuring of the original MMPI Clinical Scales (which had been carried over essentially intact to the MMPI-2), described in detail by Tellegen et al. (2003), and proceeded with the construction of 33 Substantive Scales intended to complement the Restructured Clinical (RC) Scales as well as 9 measures of threats to protocol validity. The Substantive Scales of the MMPI-2-RF are linked conceptually and empirically to current constructs and models in the areas of personality and psychopathology (see Ben-Porath, 2012, for details). The Validity Scales have been subjected to extensive empirical investigation that supports and complements the interpretive guidelines provided in the *MMPI-2-RF Manual for Administration, Scoring, and Interpretation* (Ben-Porath & Tellegen, 2008/2011a). An account of their development and a detailed report of the psychometric properties of the MMPI-2-RF scales are provided by Tellegen and Ben-Porath (2008/2011). A list of the 51 scales and a brief description of what they assess are provided in Table 1-1. An up-to-date reference list with all MMPI-2-RF studies can be found at the websites of the University of Minnesota Press (<https://www.upress.umn.edu/test-division/MMPI-2-RF/mmpi-2-rf-references>) and Pearson (http://images.pearsonclinical.com/images/Assets/MMPI-2-RF/MMPI-2-RF_Bibliography.pdf).

Table 1-1.
The MMPI-2-RF Scales

Validity Scales	
VRIN-r	Variable Response Inconsistency—Random responding
TRIN-r	True Response Inconsistency—Fixed responding
F-r	Infrequent Responses—Responses infrequent in the general population
Fp-r	Infrequent Psychopathology Responses—Responses infrequent in psychiatric populations
Fs	Infrequent Somatic Responses—Somatic complaints infrequent in medical patient populations
FBS-r	Symptom Validity—Somatic and cognitive complaints associated at high levels with over-reporting
RBS	Response Bias Scale—Exaggerated memory complaints
L-r	Uncommon Virtues—Rarely claimed moral attributes or activities
K-r	Adjustment Validity—Avowals of good psychological adjustment associated at high levels with under-reporting
Higher-Order (H-O) Scales	
EID	Emotional/Internalizing Dysfunction—Problems associated with mood and affect
THD	Thought Dysfunction—Problems associated with disordered thinking
BXD	Behavioral/Externalizing Dysfunction—Problems associated with under-controlled behavior
Restructured Clinical (RC) Scales	
RCd	Demoralization—General unhappiness and dissatisfaction
RC1	Somatic Complaints—Diffuse physical health complaints
RC2	Low Positive Emotions—Lack of positive emotional responsiveness
RC3	Cynicism—Non-self-referential beliefs expressing distrust and a generally low opinion of others
RC4	Antisocial Behavior—Rule breaking and irresponsible behavior
RC6	Ideas of Persecution—Self-referential beliefs that others pose a threat
RC7	Dysfunctional Negative Emotions—Maladaptive anxiety, anger, irritability
RC8	Aberrant Experiences—Unusual perceptions or thoughts
RC9	Hypomanic Activation—Over-activation, aggression, impulsivity, and grandiosity

**Table 1-1. (continued)
The MMPI-2-RF Scales**

Specific Problems (SP) Scales

Somatic/Cognitive Scales

MLS	Malaise—Overall sense of physical debilitation, poor health
GIC	Gastrointestinal Complaints—Nausea, recurring upset stomach, and poor appetite
HPC	Head Pain Complaints—Head and neck pain
NUC	Neurological Complaints—Dizziness, weakness, paralysis, loss of balance, etc.
COG	Cognitive Complaints—Memory problems, difficulties concentrating

Internalizing Scales

SUI	Suicidal/Death Ideation—Direct reports of suicidal ideation and recent suicide attempts
HLP	Helplessness/Hopelessness—Belief that goals cannot be reached or problems solved
SFD	Self-Doubt—Lack of confidence, feelings of uselessness
NFC	Inefficacy—Belief that one is indecisive and ineffectual
STW	Stress/Worry—Preoccupation with disappointments, difficulty with time pressure
AXY	Anxiety—Pervasive anxiety, frights, frequent nightmares
ANP	Anger Proneness—Becoming easily angered, impatient with others
BRF	Behavior-Restricting Fears—Fears that significantly inhibit normal activities
MSF	Multiple Specific Fears—Fears of blood, fire, thunder, etc.

Externalizing Scales

JCP	Juvenile Conduct Problems—Difficulties at school and at home, stealing
SUB	Substance Abuse—Current and past misuse of alcohol and drugs
AGG	Aggression—Physically aggressive, violent behavior
ACT	Activation—Heightened excitation and energy level

Interpersonal Scales

FML	Family Problems—Conflictual family relationships
IPP	Interpersonal Passivity—Being unassertive and submissive
SAV	Social Avoidance—Avoiding or not enjoying social events
SHY	Shyness—Bashful, prone to feel inhibited and anxious around others
DSF	Disaffiliativeness—Disliking people and being around them

Interest Scales

AES	Aesthetic-Literary Interests—Literature, music, the theater
MEC	Mechanical-Physical Interests—Fixing and building things, the outdoors, sports

Personality Psychopathology Five (PSY-5) Scales

AGGR-r	Aggressiveness-Revised—Instrumental, goal-directed aggression
PSYC-r	Psychoticism-Revised—Disconnection from reality
DISC-r	Disconstraint-Revised—Under-controlled behavior
NEGE-r	Negative Emotionality/Neuroticism-Revised—Anxiety, insecurity, worry, and fear
INTR-r	Introversion/Low Positive Emotionality-Revised—Social disengagement and anhedonia