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## 11. A functional psychological approach to low back pain

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To study the history and evolution of science is to study how humans alter their conception of reality. To study how humans measure this reality is to study measurement technology. This chapter will attempt to clarify how psychology has followed a measurement bias that has greatly limited its potential contribution to the diagnosis and treatment of the patient with lumbar spine complications. In addition, an alternative approach, a functional psychological approach to psychological treatment, will be presented.

If psychology is to be usefully applied to the diagnosis and treatment of lumbar spine patients, measurable psychological phenomena that demonstrate clear relevance to the orthopaedic phenomenon in question must be clarified. In this regard, there must be relevant, interrelated theory and data, and not disconnected efforts of psychological activity employing unrelated measurement devices or techniques.

Let us examine closely what a psychological perspective can be, and then decide whether this perspective can enlarge understanding of the lumbar spine patient. Currently, psychologists identify "pain" as the psychologist's port of entry into the experience of the lumbar spine patient. It would seem evident that a painful condition reported by a patient would fall within the pale of psychological interest and that such a phenomenon would attract psychological attention. I do not dispute these points as either invalid or unjustified, but I do question seriously whether such focus of attention represents the psychologist's most important or potentially useful line of inquiry.

Consider the following remarks. First, there is little in a psychologist's formal training that prepares him or her for psychological diagnosis and treatment of the lumbar spine patient. Certainly the psychologist is trained to deal with problems in human living conditions of many sorts, but his training cannot be assumed to be sufficient preparation for adequately comprehending the problems of lumbar spine patients in specific psychological terms. It is simply not enough to apply standard psychological measurement technologies and concepts to lumbar spine patients and then hope to understand their specific, individual psychological dilemmas. For example, to say that all lumbar spine patients are depressed individuals is to declare

a psychological generality of limited significance or use. Even minimal experience with lumbar spine patients reveals, with observation, a psychological depression of some magnitude. This is particularly true of those patients with chronic pain or lasting disability.

Second, the traditional psychological prejudice to employ standardized, "objective" measurement techniques in the assessment of personality variables associated with the patient with lumbar pain is not necessarily the most advantageous approach to this clinical problem. In fact, when one reviews the research literature on psychological assessment, some challenging conclusions surface. Mischel<sup>2</sup> concluded in his thought-provoking book on personality assessment the following:

In general, the predictive efficiency of simple, straightforward, self-ratings and measures of directly relevant past performance has not been exceeded by more psychometrically sophisticated personality tests, by combining tests into batteries, by assigning differential weights to them, or by employing more complex statistical analyses involving multiple-regression equations. These conclusions for personality measures apply, on the whole, to diverse content areas including the prediction of college achievement, job and professional success, treatment outcomes, rehospitalization for psychiatric patients, parole violations for delinquent children, and so on. In light of these findings, it is not surprising that large-scale applied efforts to predict behavior from personality inferences have been strikingly and consistently unsuccessful.\*

In view of this apparent failure of psychometric tests to yield clinically useful data in the prediction of personality functioning, it would seem that another alternative approach would be advisable, particularly when one is attempting to deal effectively with a specific patient in need of immediate and reliable diagnosis and treatment. Such an alternative approach should be guided by a measurement technology designed to measure specific psychological variables that bear expected relationships to problems associated with lumbar spine complications. There are many avenues open to the inquiring psychological investigator when diagnosing and treating psychological complications associated with the lumbar spine and related disability. The avenue of choice per investigator is rightfully an individual one, and useful results should be the primary (if not the only) criterion employed in the assessment of the clinical value of that choice.

#### **A MEASUREMENT ALTERNATIVE**

The most useful psychological perspective in the study of the lumbar spine patient will be obtained when primary attention is given to the patient's own conception and self-ratings of his functioning and concerns. The patient's conception of his own personal space is critical to one's understanding of the patient's overall condition. By directing attention to measuring the patient's psychological concerns during the ongoing period of his pain and possible disability, one is measuring psychological variables associated with the existing medical problem. Thus it is important to enlist the full cooperation of the patient to treat him. The patient's evaluation of his own psychological circumstances is a direct and personal one. Additionally, one

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\*From Mischel, W.: *Personality and assessment*, New York, 1968, John Wiley & Sons, Inc., pp. 145-146.

does not need to suspect dishonesty or dissimulation from the patient, because it is to his benefit to respond in a straightforward, helpful manner. Thus there is no good reason to deceive the patient during measurement procedures, and no value in disguising the true intent of measurement goals.

If a patient is motivated to claim pain or disability when such conditions do not prevail, then the validity of *any* measurement technique is in question. This chapter addresses the lumbar spine patient with a legitimate problem. Malingerers represent another focus of concern.

#### A UNIFYING PSYCHOLOGICAL PERSPECTIVE

Identifying a psychological perspective from which to view the lumbar spine patient is critical to the integration of theory with data and expected outcomes. Unless one has a basic, unifying conception of the general problem at hand, it is impossible to select psychological variables to examine or study, variables that bear expected relationships to the problem. If, for example, one believes that the oedipal conflict is basic to personality functioning, one would tend to view conflicts of the spinal pain patient in terms consistent with that belief. Of course this makes little sense, and a conceptual guide or framework must be found elsewhere.

A functional psychological approach to lumbar spine problems begins with the specific psychological dilemma the patient has as a result of his lumbar spine complication. That is, when an individual's daily functioning is interrupted or impeded by a lumbar spine complication, his readjustment in function is challenging and stressful. The degree to which the patient perceives his medical problem to be stressful varies as a function of the severity of the physical problem and the patient's assessment of the disturbance. Therefore the degree of stress involved can change as alterations are made in the patient's physical status, as well as in the patient's assessment of the severity of his personal dilemma or life-style conflicts. As the problem progresses from acute to chronic, the patient's psychological concerns should predictably broaden and intensify.

Psychological stress, then, appears to be a central dispositional variable that should bear expected relationships to increases or decreases in the patient's overall condition. Stress, as defined here, is any influence on an organism that disturbs the organism's natural homeostatic balance and requires adaptive reactions from the organism if the organism is to resume normal functioning. When adaptive reactions fail to occur, the effects of stress increase, and the organism proceeds toward an increasingly more challenging and threatening life situation. Suicide would be an example of an organism's dramatic failure to find effective adaptive reactions, and its consequent collapse.

There are many psychological variables that cause stress, and many others that result from continued, stressful demands on a patient. *The most dramatic and uniform effect of stress on the human body is an increase in physical tension.* When a challenging influence or force makes demands on the body, and when these demands are not met with effective adaptive reactions, it is predictable that muscles will tighten in response. Whether the stress comes from excessive interpersonal conflict, marital discord, financial pressure, noise pollution, disruptive children, physical pain, or other circumstances, the individual will tighten in response unless

he is trained or equipped to react otherwise. As muscles tighten, they increase pain; but the tightness also increases the likelihood of new or further injury to muscle tissue.

\*Kraus<sup>1</sup> reported tension as one of the two major causes of back pain along with inadequate physical exercise. As stress produces physical tension, muscles tighten and shorten in apparent maladaptive response.

If one is prepared to accept stress and tension as psychological variables amenable to treatment, then the assessment of stress and tension represents a legitimate and important beginning for the psychologist in the treatment of lumbar spine patients. Since stress and tension are phenomenologic variables, in the sense that they are most vividly known to the patient himself, self-reports regarding the presence or absence of stress and tension can be considered useful clinical and research data. The measurement or assessment of stress both in terms of kind and degree would be a necessary and valid process of inquiry for treatment personnel. Also, the measurement of tension, as perceived by the patient, would be critical to a full review of his condition.

Since there are many potential causes of stress and many possible effects of unmanaged tension, the measurement review of the patient's psychological condition should allow for a comprehensive investigation into the daily functioning of that individual. Therefore measurement technology of this sort would assess a patient's self-ratings regarding a variety of his daily activities and concerns. Also, such a technology should incorporate a measurement principle that allows the patient to calibrate the degree of his psychological concerns. Such a calibrated scale should range from very significant concerns to no concerns. Another measurement principle is necessary: the patient should have a measurement device that allows him to alter his self-ratings over time as his condition improves or worsens. This principle is in contrast to procedures involving traditional objective tests that basically categorize the patient in a psychological paralysis. Because a patient reports depression on the day of testing does not mean he is a depressed person either then or later. Psychological measurements must be capable of measuring *change in psychological disposition and function*, or the measuring device is of little informative or practical use. The change in disposition and the measurement of such change provide useful information regarding treatment outcomes and also how close the patient is to finding an effective personal adjustment.

A useful psychological measurement technology should

1. Allow for an individual's *self-ratings* of his own psychological disposition
2. Measure psychological *variables related to the problem* or phenomenon in question
3. Provide an index or rating that is preferably *numerical* in form and that allows for a determination of degree of concern or influence
4. Collect ratings over time, thus allowing for an *assessment of changes* in the individual's conception of his current situation
5. Track the results of treatment in a manner allowing for a *results-oriented evaluation*, thus the measuring device would serve both clinical and research purposes

### PERSONAL CONCERNS INVENTORY (PCI): A 3-WEEK, PATIENT SELF-RATINGS APPROACH TO STRESS, TENSION, AND RECOVERY

In this chapter's functional psychological approach to the study of lumbar spine patients a unifying conception of stress and tension has been presented. To further the relevance of this framework, the patient's own conception of his stresses and tensions as the focus of measurement has been chosen. The patient's *personal concerns* for each of 52 carefully selected stress- and tension-related variables are the "substance" being measured in the Personal Concerns Inventory (PCI).<sup>3</sup> These self-reports are numerical in form and allow for the patient's own structured evaluation of his life situation over time. Changes in self-reports from day to day are considered to be patient reevaluations of personal concerns and not inconsistencies or error variances. There is no effort toward categorizing the patient as having one kind of personality or personality disturbance, and no attempt is made to draw personality inferences about the patient. The primary assessment objective of the PCI is to record accurately and systematically a full review of the patient's ongoing personal concerns for a wide variety and comprehensive set of stress- and tension-related variables.

The PCI provides the patient with a 0-to-10-point, Likert-type rating scale, whereby he assigns a daily numerical value to each item representing a degree of personal concern. The higher the rating, the greater the inferred personal concern for that item on that day. The sum total for all 52 items for each day is the measured daily level of personal concern for the patient. The higher the total score, the greater the inferred level of stress and tension.

The PCI is presented to the patient in chart form that allows for daily ratings of the 52 items throughout a 3-week period. The chart provides information to both patient and treatment personnel regarding how the patient evaluates his progress or lack of it in relation to the 52 items. Additionally, specific items rated as high personal concerns, which persist as measures of high stress and tension, surface as focal issues, and as such require specific treatment. The chart therefore provides information as to how the patient perceives his stresses and tensions, what the sources are, and whether the patient is actually making progress in coping with them over time. This results-oriented approach is applicable to all lumbar spine patients, whether they be chronic or acute in status and whether there is or is not an identifiable organic basis for the patient's orthopaedic complaints.

Each of the 52 items is considered to be potentially relevant to increases or decreases in stress and tension. The following comprehensive list of possible personal concerns will provide a complete review of the patient's daily functioning from a psychological point of view:

Need more recreation	Need to be more assertive	Alcohol (self)
Noise at home	Poor eating habits	Alcohol (other)
Noise at work	Short temper	Recent death in family
Sleeping problems	Freeway traffic	Conflicts with relatives
Chest pain	Cigarette smoking	High blood pressure
Problems with children	Feel guilty	Boredom
Weight problem	Back pain	Tension

Worry too much	Can't say no	Conflicts with neighbors
Medical bills	Loneliness	Financial difficulties
Need employment	Jealousy	Need to relax
Divorce	Pill consumption	Need physical exercise
Separation	Need more self-discipline	Nervousness
Marital problems	Dislike job	More time for self
Desire more social life	Continued physical pain	Depression
Trouble with employer	Job security	Ulcers
Need friends	Unexpressed anger	General unhappiness
Sex difficulties	Headaches	
Deadlines on job	Trouble making decisions	

It is significant to note that this approach to psychological assessment places the patient in the center of the psychological treatment arena. If the patient reports having no personal concerns or psychological conflicts, or that his life-style is sufficiently in balance, then there is no basis for suggesting or continuing psychological treatment.

Whenever a rating of 1 or more is recorded, there is expressed concern on the patient's part and a potential departure point for psychological treatment. It should be noted that this approach to the assessment and treatment of the psychological needs of lumbar spine patients places responsibility on the patient, and his acceptance of this responsibility prepares the way for his effective psychological treatment. In other words, this approach does not assume a psychological wisdom that either preempts or prevails over the intelligence and willingness of the patient to make progress in coping with his personal life-style and associated difficulties.

The PCI is scored as follows: any rating of 7, 8, 9, or 10 is considered to be a *primary concern*. All primary concerns are grouped and form the assessment focus of the patient's most significant stress- and tension-related conflicts and difficulties. Ratings of 3, 4, 5, and 6 are considered *secondary concerns* and are recognized as important issues to the patient but as secondary to the primary treatment focus. Ratings of 1 and 2 are viewed as concerns of the patient not requiring therapeutic attention at that time. A rating of 0 indicates that the specific issue is *irrelevant to treatment*, unless that rating were to be altered during the course of treatment.

Once the patient has indicated a primary or secondary set of personal concerns, there is a course of action indicated. That is, the patient must now do something to constructively alter his personal life situation. Hopefully the psychological consultant and other relevant personnel (i.e., physical therapist or nutritionist), all in cooperation with the physician, will advise the patient as to a proper and effective course of action. Thus psychological import is educational for the patient and enhances his capacity for coping with psychological conflict.

When the PCI reveals a set of sufficiently low self-ratings, the patient, with the psychological consultant, may decide to discontinue consultations. Thus the patient indicates through his self-ratings that he has had success in reducing his personal concern to secondary or lower levels and that therapy is no longer needed. As long as a significant concern remains, the consultant may question the patient as to what he is doing to change this concern, whether he is following the guidance of the treatment team, and whether he requires any additional psychological assistance.

## **A FUNCTIONAL PSYCHOLOGICAL APPROACH TO PSYCHOLOGICAL TREATMENT**

This chapter's centralizing theme is that the effective psychological treatment of lumbar spine patients will prevail when conceptual model, measurement, and treatment all follow a consistent, interrelated, unified course of action. A stress and tension psychological conceptual framework was clarified, a measurement-assessment technology designed to measure stress- and tension-related variables was presented, and now a psychological treatment program will be discussed.

Stress and tension and the measurement of a patient's personal concerns determine to a large extent the appropriate form of psychotherapy. Such a treatment approach is referred to as Relaxation Therapy.<sup>3</sup> In this therapeutic program, relaxation skills attainment is joined with psychological consultation, whereby the patient learns and acquires methods useful in ameliorating or counteracting the effects of stress and unmanaged tension.

Once it has been established through the use of the PCI that a patient has significant stresses and tensions, and once it has been established that the patient desires to help himself in coping with these conflicts, the psychological consultant may initiate a therapeutic regimen. First, the consultant explains to the patient that Relaxation Therapy will effectively relieve physical or emotional tensions rapidly in most cases and that this same therapy will facilitate the learning of basic physical relaxation skills. The patient may do Relaxation Therapy every day or every 2 days as his needs for relaxation indicate. Counteracting the presence and accumulation of physical tension in this manner removes tension-related pressures from the patient's overall physical and emotional tendencies, allowing for a clearer medical diagnosis of organic causes of the medically based complaints. Should pain and disability be either partially or fully eliminated through these procedures, and should there be no medical evidence confirming an organically based disability, a clear and valuable diagnostic picture emerges. Should there be evidence of an organic basis for the orthopaedic complaint, the introduction of tension relief through Relaxation Therapy will be a facilitating, ancillary form of psychological treatment.

The introduction of Relaxation Therapy, however, does not end with relaxation training. In fact, a most important aspect of this treatment-educational program is that it helps the patient apply his newly acquired relaxation skills and stressor identification abilities to coping with daily life concerns. The patient learns to counteract stress and tension by first recognizing through the PCI what stresses him; second, he learns how to relax through Relaxation Therapy; and third, he learns to apply these coping skills to stressful daily situations. This self-study, self-help approach to daily life functioning allows the patient a measure of personal control and self-direction in the assessment and handling of daily conflict and personal challenge.

Although there is a variety of relaxation training programs available (i.e., bio-feedback, visual imagery relaxation programs, and hypnosis), this functional psychological approach is based on the Tension Management and Relaxation self-study, self-help, program.<sup>4</sup> The program's audiocassettes and printed materials provide the patient with a technology he may apply at home as he needs it. Since the relaxation program is available to the patient on a continual basis, the patient is thus assisted in his desire to reduce dependence on sedatives, muscle relaxants,

and sleeping pills. Reducing the potential side effects of these medications is an important gain associated with the relaxation effects of the overall program. The developing autonomy and psychological self-reliance the patient receives from this therapeutic approach facilitates a variety of personal growth variables that should continue beyond his successful medical and psychological treatment.

The functional psychological approach to psychological treatment is summarized by the following significant and useful variables that surface from clinical- and research-oriented perspectives.

1. The patient is viewed as the central figure.
2. The patient is called on to indicate (through the use of the PCI) what his psychological-personal concerns are, how significant they are to him, and whether he wishes to cope with them.
3. The patient decides whether he wants the increased self-reliance that can be obtained through the self-study and skills attainment program.
4. Following the patient's decision, the psychological consultant reviews the patient's PCI and brings the primary and secondary concerns into focus.
5. Following the development of the patient's awareness of his own, self-reported stress- and tension-related personal concerns, the patient is introduced to Relaxation Therapy.
6. Relaxation Therapy is first done in the psychological consultant's office and then continued by the patient at home as he needs it.
7. The integration of the PCI results (the identification of primary and secondary stress- and tension-related personal concerns) serves as the foundation for the ensuing self-help, self-study Tension Management and Relaxation program.
8. Once the patient has learned to identify and focus on significant concerns and to apply the Relaxation Therapy skills to these situations, he is psychologically better equipped to practice self-direction and self-reliance.
9. Because there are many psychological issues that are complicated and require additional consultation beyond the tension management skills attainment procedures, further psychological consultation will frequently be advisable. The psychological consultant may assist the patient (and his family) in making many difficult adjustments associated with pain, disability, and other incapacitations. Helping the patient to cope with marital conflicts, financial difficulties, job-related insecurities, problems with children and alcohol and other drug consumption abuses, and so on often requires additional therapy or consultation. Such therapeutic efforts, however, are initiated and continued after the patient identifies his problems as being significant and troublesome and decides he wants to change through focused psychotherapeutic aid.
10. All clinical concerns are recorded on a daily basis by the patient for as long as his personal concerns continue. Clinical results are numerically recorded, providing an index of changes in the patient's psychological disposition during his ongoing medical problem. The clinical success (or lack of success) of these psychologically based procedures is then amenable to research analysis and to all personnel responsible for patient care.

## SUMMARY

In this chapter an alternative approach to traditional forms of psychological assessment was presented. The traditional emphasis on assessment through objective psychometric measurement techniques was considered of secondary use to self-report methods of evaluation.

Also emphasized was the value of assessment procedures that focus on the measurement of psychological variables that come from a unifying conceptual psychological perspective and bear expected relationships to the phenomenon being measured. Thus an assessment of a psychological concern of a lumbar spine patient should involve the measurement of psychological variables that bear direct relationship to increases or decreases in the patient's medical-psychological disposition.

A third assessment emphasis of this chapter was on the importance of taking psychological measurements over time, allowing for the calibration of changes in the patient's ongoing condition. This results-oriented assessment procedure encourages an accountability criterion that facilitates clinical effectiveness but that also integrates research procedures with clinical practice.

Finally, a functional psychological approach to psychological treatment was presented, which integrates a unifying conceptual model with a specific assessment methodology and a specific form of psychological treatment. This treatment procedure is consistent with the conceptual model as well as with the measurement procedures, and it is designed to treat the specific psychological variables considered relevant to psychological complications of lumbar spine patients.

## REFERENCES

1. Kraus, H.: *Backache, stress and tension*, New York, 1965, Simon & Schuster, Inc.
2. Mischel, W.: *Personality and assessment*, New York, 1968, John Wiley & Sons, Inc.
3. Mulry, R.C., and White, A.H.: *The portable back school*, St. Louis, 1981, The C.V. Mosby Co.
4. Mulry, R.C.: *Tension management and relaxation*, St. Louis, 1981, The C.V. Mosby Co.
5. White, A.H., Mulry, R.C., Mattmiller, W., White, L., and Klein, E.: *The back school: an audiovisual team approach to low back pain*, St. Louis, 1981, The C.V. Mosby Co.