

# Psychological Aspects of Spinal Cord Injury

by Katharine S. Westie, Ph.D.

Spinal cord injury (SCI) is a massive assault to the psyche as well as the body. Within moments, a person who had been active and independent becomes immobilized, loses control of bowel, bladder, sexual and other bodily functions, and is dependent on others to meet the most basic needs. The instantaneous effects of the injury result in total disruption of the victim's life, and the beginning of a life-long psychological adjustment process. Optimal emotional adjustment is imperative to the recovery and rehabilitation process, due to the tremendous psychological energy and motivation required for a SCI patient to learn self-care, independence, and psychosocial coping skills.

## Theories of Psychological Adjustment

Psychological adjustment to SCI has been conceptualized in terms of three major models. The first is referred to as the "stages" theory, and is derived from the well known work on grieving done by Lindeman and Kubler-Ross.<sup>7,6</sup> This theory proposes that individuals adjusting to losses, such as SCI, experience certain psychological stages in the readjustment process. These include (1) shock and denial, (2) depression, (3) anxiety, (4) anger, (5) "bargaining," and (6) adaptation. In using this model, it is important to understand that not all patients go through all stages, that a patient may go through a stage more than once and that stages are not necessarily experienced in a

given order. This model is helpful in recognizing these emotional responses as a normal, healthy, and appropriate part of adjustment to SCI.

The second model is referred to as the "developmental" theory. It is derived from Erikson's work on psychosocial stages of development, from infancy to adulthood.<sup>4</sup> As applied to SCI, the developmental theory assumes that the trauma results in a natural regression, followed by a reworking of some developmental tasks previously mastered in childhood, starting with (1) basic trust, (2) autonomy, and (3) initiative. Physically and emotionally, SCI patients must progress through tasks of infancy and childhood again. Like infants, they initially may be unable to verbally communicate, need to be fed and moved, have no bowel and bladder control, and are totally dependent. As they progress through rehabilitation, they relearn childhood tasks such as rolling, feeding, developing a bowel and bladder routine, mobility, and other basic activities of daily living. They experience the adolescent task of separation from parental figures as they work toward the independence of adulthood. The rehabilitation program can be seen as facilitating attainment of these developmental landmarks.

The third model, the "individual differences" theory, proposes that adjustment is primarily related to individual differences in patients' premorbid personalities.

These models provide three different approaches to understanding psychological ad-

justment to SCI. However, they need not be seen as mutually exclusive. In fact, when used together, they provide a more complete picture of SCI patients' complex adjustment process.

## Psychological Responses of Staff

Rehabilitation professionals working with SCI may find that certain patients elicit grieving responses in them, similar to those of their patients. When staff members identify with or become emotionally attached to patients, they may find themselves experiencing symptoms of depression, anger, or even denial. Highly motivated staff may also find it difficult to cope with noncompliance of depressed or angry SCI patients. Occasionally, when staff members' goals for resistant patients are not met, they may blame themselves for perceived failures or subconsciously direct anger and frustration toward patients. Although these are normal emotional responses, they may interfere with staff members' well-being and effectiveness. When situations such as these occur, consultation with the rehabilitation psychologist can provide the staff member with behavioral management techniques and enhance personal coping skills and insight. Professionally facilitated groups designed to provide peer support, teach stress management skills, and prevent "burnout" are also recommended.

## Head Injury in SCI

Closed head injury (CHI) frequently accompanies traumatic SCI, though it often goes unrecognized. The reported incidence of head injury in SCI ranges from 10% to 58%.<sup>5</sup> Recent studies indicate that neuropsychological deficits are common among SCI patients.<sup>2,3,13</sup> Morris, et al. state that 50% of all SCI patients may be expected to exhibit evidence of CHI and some degree of cognitive impairment.<sup>8</sup>

Even mild head injuries can significantly affect cognitive and emotional functioning, especially during the first months post-injury. The most prominent areas of cognitive dysfunction following CHI are in learning, memory, and speed of information processing, all important to learning of new skills in rehabilitation settings.<sup>2</sup> Thus, patients' ability to acquire new knowledge may be greatly diminished at the

precise time that intense demands to learn are placed on them.<sup>1</sup> CHI-related behaviors such as poor social judgment, poor frustration tolerance, impulsivity, emotional lability, perseveration, difficulty in initiating behavior, decreased mental stamina, fatigability, and irritability are often misperceived by staff as enduring premorbid personality traits. Neuropsychological testing can enhance patient and staff insight into the effects of CHI and facilitate treatment planning.

## Psychological Treatment Approaches in the Rehabilitation Setting

Though the primary responsibility for psychological care of the SCI patient is assigned the psychologist and social worker, other rehabilitation professionals on the interdisciplinary team play an important role. Sensitivity to the patients' emotional status allows for treatment planning and interaction that maximizes physical and psychological rehabilitation.

Ideally, psychological rehabilitation begins in the Intensive Care Unit (ICU) soon after injury. At this time, many SCI patients are intubated and unable to verbally communicate. They often experience disorientation, depression and anxiety, sensory and sleep deprivation, and perhaps the temporary delusional and hallucinatory state known as "ICU psychosis." This is a critical time for team members to offer emotional support, establish a communication system and determine what the patient wants to know. Some need extensive information about their injury and care in order to best cope with fears and anxiety. Others clearly want to delay knowing more about their condition. Most welcome reassurance that their emotional responses and concerns are normal and accepted.

As the patient progresses through acute care into the rehabilitation setting, regularly scheduled psychotherapy sessions can facilitate the adjustment process. The psychologist can help the team understand the patient's stage of adjustment, and provide consultation on behavioral management approaches.

Emotional responses dealt with by psychotherapy include a range of ego defenses, most commonly repression and denial. It is important to recognize that these defenses protect the psyche from material too traumatic to deal with

consciously, thereby preventing decompensation. In this regard, denial and repression are adaptive, and indeed may be the reason SCI patients are able to function in the stressful rehabilitation situation so soon post-injury. Typically, as denial decreases over time, depression, anxiety, and anger increase. How these emotions are expressed depends largely on the patient's premorbid personality style.

Normal emotional responses to SCI may be manifested in behaviors which impede progress in the rehabilitation setting. For instance, depression may cause psychomotor slowing, decreased motivation, and social withdrawal. Anxiety may create psychogenic somatic symptoms and poor concentration. Anger may result in noncompliant or destructive behavior. Psychotherapy can help via reinforcing adaptive coping skills and teaching new coping strategies. The psychologist may also work with the interdisciplinary team to develop behavioral modification programs, based on learning theory, to decrease these behaviors. Contingency management and behavioral "contracting" are most frequently used in rehabilitation settings. Approaches emphasizing positive reinforcement to "shape" desired behaviors are particularly effective.<sup>10</sup> Although such programs may be time-consuming initially, they can rapidly decrease maladaptive behavior and ultimately increase the patient's sense of control and self-esteem.

Psychological treatment of SCI often includes group psychotherapy, which is an excellent method to both maximize patient learning and efficiently use therapist time. Patient groups can provide emotional support, peer role models, teach new coping skills, and decrease social discomfort. Likewise, multiple-family group psychotherapy is a powerful and effective tool for facilitating family adjustment to SCI.<sup>9,12</sup> Family members experience similar emotional responses to the patient and similarly benefit from psychological intervention. If not included in the team effort, a well-meaning family member could inadvertently sabotage the independence-oriented rehabilitation approach, or be too psychologically distressed to provide the emotional or physical care the patient needs.

Other issues which need to be routinely addressed by the psychologist, in conjunction with the rehabilitation team, are sexual adjust-

ment, vocational rehabilitation and pain management training. Prevention of medical complications, particularly those which have significant behavioral/emotional components, need to be emphasized. An example is pressure sores, which often occur when depression and/or substance abuse lead to poor self-care.

## Psychological Response to Orthotic Devices

SCI patients' ability to emotionally adjust to orthotic devices (sometimes referred to as "gadget tolerance"), is related to type of orthosis, premorbid personality factors, and stage of emotional adjustment.

Orthoses used to stabilize the spine after surgery sometimes become the "target" of patients' emotional distress. For instance, it is easier for the patient who is denying the seriousness of his SCI to blame pain and decreased function on the TLSO. Anger expressed toward an inanimate object is "safe," whereas anger directed toward family or staff may have negative repercussions. Insight into these psychodynamics can help the orthotist deal with constant requests for adjustments to orthoses, or anger responses of post-surgical SCI patients.

Upper and lower limb orthoses used to increase independence elicit a variety of emotional responses. The potential for increased function often provides a major psychological "lift," enhancing patients' sense of competence and self-esteem. However, inclusion of psychological factors in the selection of candidates for orthoses is critical. Fitting a patient who is not emotionally ready for an orthosis will result in loss of time and a failure experience for all concerned.

There are numerous reasons why SCI patients may resist orthotic devices, or are unsuccessful with them, including the following:

### *Body image*

Many SCI patients value the fact that they look "normal" except for the wheelchair. The magnitude of disability may be "invisible." When orthoses are introduced, patients sometimes report that people stare at them more. Their sense of "being different" and social discomfort increases. For this reason, sensi-

tivity to aesthetics is important in designing orthoses for this population.

### *Independence-Dependence Conflicts*

In some patients, there are secondary gains in their dependent state, though they may not be consciously aware of this. For example, when an upper limb orthosis significantly increases independence in activities of daily living, the patient may experience withdrawal of valued reinforcers (e.g. time and attention from caregivers). This can lead to rejection of the orthosis. If significant others (family and staff) are willing to provide extra attention and reinforcement for the new independence behaviors, these issues usually resolve well.

### *Self-Concept*

SCI patients may not integrate disability into their self-concept for some time. In one study, 130 SCI patients were interviewed about their dreams in order to examine subconscious content regarding self-perception. The authors found that 75% of these patients, injured less than one year, had never seen themselves in a wheelchair in dreams.<sup>11</sup> This is one illustration of the initial need of SCI patients to maintain an underlying self-image as nondisabled. Orthoses may conflict with this self-image in more recently injured SCI patients.

### *Denial*

Orthoses may threaten patients' denial systems. Patients not yet ready to acknowledge the extent or permanence of their disabilities frequently reject orthoses. Alternatively, they may accept temporary orthoses, but reject definitive ones. Patients with self-image and denial issues benefit from psychotherapy and being given more time to adjust emotionally to their disability. They should be provided with information on obtaining recommended orthoses for the future. At the other extreme, patients sometimes build denial systems based on unrealistically high hopes for orthoses. For example, a patient using lower limb orthoses for ambulation may find they are not practical for use in valued pre-injury activities. This could lead to breaking down of denial and increased depression or anger, which may temporarily create decreased motivation or rejection of the orthoses. Clear communication, empha-

sizing realistic expectations before introducing orthoses, may prevent some of these responses.

### *Premorbid Personality*

Longstanding personality attributes (such as poor frustration tolerance, risk-taking behavior, and substance abuse) and stage of adjustment (especially depression) can lead to poor self-care resulting in pressure sores or poor follow-through in any activities requiring sustained effort. Attention to psychological factors in selecting candidates for orthoses is the most important factor in preventing these problems.

## **Summary**

Spinal cord injury results in an overwhelming physical and emotional adjustment process. By understanding emotional responses, and applying them in treatment planning and interaction with patients, rehabilitation professionals can greatly enhance the psychological adjustment of SCI patients.

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