When the automobile he was welding exploded, Jason Bennett, age 27, sustained thermal burns on his face, neck, anterior chest, and both upper and lower arms (36% total body surface area [TBSA]). While at work as a chef, 23-year-old Suzanne Nathan-Jones suffered grease burns on her lower abdomen, perineum, and both anteromedial thighs (33% TBSA). And after splashing herself with gasoline and igniting herself in a suicide attempt, Fran Hewlett, age 32, was admitted with burns on her head, face, ears, neck, anterior chest, and arms (36% TBSA).

All of these patients face the same challenge: short- and long-term recovery from severe burns, which can cause extreme distress in patients because of their devastating physical and psychological consequences. Indeed, burn injury not only destroys skin and surrounding tissues, as well as initiating associated physiologic responses, it may also result in disfigurement that challenges self-esteem and distorts body image. In addition, providers may not know how to determine which patients will struggle with depression, posttraumatic stress disorder (PTSD), and other psychological conditions—and how to respond when they do.

Several factors will determine a burn victim’s ongoing psychological response, not the least of which is his psychological state before the injury (postburn psychological conditions may result from psychopathology that preceded the injury or its sequelae). Early nursing assessment and intervention can therefore be a crucial aspect of recovery.

CONTRIBUTING FACTORS IN BURN INJURY
Burns are the fifth leading cause of death resulting from injury in the United States, with an average of 4,500 fatalities a year. Death rates are highest among children younger than age five and adults older than age 65. Researchers estimate that nearly half of all burn accidents are preventable. Approximately one-third of burned patients have been found to have a physical ailment (including impaired vision, limited mobility, senility, or an underlying neurologic disorder) or a psychiatric condition (including alcohol abuse) that may have predisposed them to injury. Low socioeconomic status seems also to be a factor; men are burned in greater numbers than women, and blacks more frequently than whites.

Abuse. Children who are scalded or sustain contact burns (caused by a hot iron, for example) are often victims of child abuse. Abuse is also one of the causes, though less frequently, of burns among the elderly, who may be the victims of criminal assault or abuse by caretakers. Elderly patients tend to suffer burns affecting greater percentages of TBSA—caused by prolonged contact with fire or other heat source—because of insensitivity to heat that could be the result of peripheral neuropathy, poor mobility, or cognitive impairment. Older patients are more likely to die from burn trauma because of their lessened ability to mount an appropriate physiologic response to the injury; they’re also at higher risk for multisystem organ failure.

Psychiatric conditions. The intentional self-inflammation of burns, called self-immolation, can be categorized according to intention: self-mutilation and suicide attempt. The method used also varies accordingly; those who intend self-mutilation burn themselves with a match, chemical, cigarette, or cig-
Although most burn victims recover without significant psychological sequelae, this most devastating of injuries does involve particular concerns.

arette lighter, whereas those who attempt suicide use highly flammable liquids to ignite themselves. Research shows the latter to have a higher incidence of prior psychiatric illness and history of substance abuse compared with others admitted to burn centers. Garcia Sanchez and colleagues reported that 60.3% of self-immolators had a history of depression, psychosis, or schizophrenia.

Intoxication. The risk of burn injury increases among alcohol and drug abusers because their judgment is impaired by intoxication. The inhalation of solvents (known as “huffing”) for their mood-altering effects may lead to burns; the teenagers and young adults who are most likely to use such substances may not be aware that they’re highly flammable, and when burned, victims may not seek medical attention for fear of prosecution or out of embarrassment. Cocaine and methamphetamine abusers frequently sustain flash burns on the face and chest as a result of freebase use.

THE PSYCHOLOGICAL OUTLOOK

It’s widely accepted that people who’ve sustained burn injuries are likely to show a range of emotions (anger, irritability, frustration) and psychological states (delirium, anxiety, depression, and grief reactions). Although most recover from these acute responses, PTSD is diagnosed in 8% to 45% of patients at longitudinal follow-up (a diagnosis of PTSD is based on symptoms that occur 30 days after injury, as compared with acute stress response, which occurs within 30 days of the injury). Ehde and colleagues found that 19% of patients with burn injuries met criteria for PTSD one year after they were injured. Other researchers, who assessed posttraumatic stress and maladjustment in patients one to two years postburn, found that 33% of the 428 patients studied suffered severe PTSD.

Roca and colleagues found that the best predictors of psychological adaptation were related to specific aspects of the burn injury, treatment course, and the survivor’s personality. Several studies have reported that the extent of the burn injury did not predict the number of posttraumatic stress symp-

toms experienced at follow-up. Individual coping behaviors and the degree of social support appear to be significant determinants in whether a patient will develop PTSD. Patients whose self-esteem derives mainly from physical attractiveness, athletic prowess, or social acceptance tend to have worse prognoses than do those whose self-esteem stems from nonphysical traits such as intellect, courage, altruism, or empathy.

Patients may endure vivid recollections, flashbacks, and anxiety; they might deny their thoughts and feelings about the injury or have insomnia. Thus, all patients with burns should be screened as expeditiously as possible to identify the need for psychological services.

PHASES OF PSYCHOLOGICAL RECOVERY

Responses to burn trauma can be categorized into three stages: acute, subacute, and chronic, although they are not mutually exclusive. Transient delirium, for example, which first occurs in the acute or subacute phase, may recur after reconstructive surgery, during the chronic phase.

Acute. During the period between initial injury and completion of fluid resuscitation, initial burn shock is resolved. Psychologically, the acute phase is characterized by an initially lucid period that lasts 24 to 72 hours, during which time the patient may discuss how he was burned with remarkable clarity. Thirty percent to 70% of patients, however, develop delirium (not associated with sepsis or other complications) within 48 hours of the injury, the etiology of which isn’t fully understood but is attributed
Once fears of death subside, concerns may feel distraught when confronting the disfigurement and pain of severely burned patients. 

During this phase, the emphasis is on denial about injury severity and impending treatment. Agitation and hallucinations with vivid flashbacks often follow. This is particularly true when patients receive treatments—such as repeated showers, skin debridement, and medications such as ketamine or fentanyl given for conscious sedation—that cause them to recall the injury. Emotional lability is a normal reaction to stress and severe injury, providing an outlet to pent-up emotions.

Fluctuating levels of alertness, concentration, and short-term memory during this phase may mean the patient doesn’t grasp the significance of his injuries. Sedation can worsen some patients’ reluctance to inquire about the extent of their injuries and prospects for recovery. Common complicating factors during this phase include suicidal ideation, withdrawal (if the patient was intoxicated at the time of injury), and concomitant injuries, such as closed head trauma. Patients should set the pace at which they learn about how their appearance and abilities have been affected. Weeks may pass before they are ready to look at their wounds. Denial is common, but the intensity of denial is highly variable and subject to sudden fluctuations. Denial about injury severity is hard to maintain, however, with the daily round of dressing changes, when patients have the opportunity to see the extent of their injuries, the deformity of their bodies, and their subsequent decreased range of motion. Further, disfigured patients may gain a sense of their injuries by gauging the level of shock they see in the faces of visitors or caregivers.

Patients with a history of suicide attempts, psychiatric illness, or self-immolation should be placed on constant observation until further assessment of psychosis or suicidal ideation is possible. Psychosis, depression, and personality disorders are often present in self-immolators.25, 26

Behavioral characteristics may shift during progression from the acute phase to the subacute phase of recovery; hostility, irritability, and demanding behavior may arise as patients strive to regain autonomy. Although such behavior may make treatment more challenging, it’s a good prognostic sign. Patients who exhibit apathy, passivity, and dependency are likely to continue to do so after discharge.

Subacute. Once fears of death subside, concerns surface about appearance, function, and the impact of injuries on day-to-day life. This is the most difficult time for patients; they must begin to accept their injuries and their consequent losses. Painful dressing changes, arduous physical therapy, and uncertainty coupled with loneliness add to their difficulties. Seeing their wounds, understanding what skin grafts involve (repeated trips to the operating room for harvesting of split-thickness skin grafts, recurrent acute pain from the harvesting, limited mobility), and feeling donor sites all are a part of the slow process of wound healing. Some patients may be devastated by the sight of their wounds, especially those with facial wounds. And because patients generally feel accepted while hospitalized, where they are supported by staff, they may become fearful when anticipating others’ reactions when they leave the facility.

Altered facial features and changes in how a person perceives his appearance may give rise to grief. Chronic. During this phase, the emphasis is on rehabilitation: regaining function and appearance and resuming former activities. Patients may feel “survivor’s guilt” (especially when other victims of a fire have died or if the patient attempted and failed to rescue another victim) along with fear at time of discharge, and they may not acknowledge the full impact of disfigurement until returning home. Social interactions and issues related to disfigurement take prominence during this phase. Disfigurement of an exposed body part (particularly the face, neck, or hands) may lead to shame and self-consciousness. Progressive scarring after a burn often causes complications such as pruritus, hyper-sensitivity, and restriction of joint mobility.

It may seem paradoxical, but some patients may view the burn injury and its consequences in a favorable light, typically expressed as social comfort and ease, a sense of contentment with their bodies, and a feeling of having gained more than was lost in the experience. Conversely, some patients respond with passive resignation or by conducting lengthy searches for further surgical improvements, a painful struggle to accept their changed features, and social isolation.

WHAT YOU NEED TO KNOW

It’s especially important for nurses working with patients recovering from burns to be aware of the responses of those close to the patient, as well as pain control, and strategies for support.

The responses of others. As they begin to realize the extent of the patient’s injuries, most family members and others close to the patient experience some degree of shock, often exhibited by anxiety, panic, and sometimes guilt. This is a time of great
uncertainty, as they try to understand what role they will play in the patient’s recovery. Communicating with family members is therefore essential. In particular, they should receive detailed information about the patient’s clinical status from the outset.

Family and friends may attempt to cope in several ways. They may take on a patient advocacy role, seeming hypervigilant at first. They may become passive observers after the patient moves into the subacute phase; or because of emotional instability they may be disruptive to staff and to the treatment regimen. For example, family members may choose which staff members they want to provide care, or they may tell staff when the patient should be medicated for pain rather than letting the patient speak for himself. Unrealistic expectations about the patient’s recovery and physical and emotional limitations may cause them to feel angry or depressed. Fears about economic security and the adjustment to living with a disabled person are also common.

**Pain control.** Pain is a powerful stimulus for agitation, anxiety, and anger. It can prohibit sleep and contribute to increased burn-induced hypermetabolism. Pain management consists of treating separately the continuous background pain and the pain related to therapeutic procedures. For example, although full-thickness burns are not painful, partial-thickness burns are, from the time of injury; grafted areas are usually not painful, so donor sites (which are essentially partial-thickness injuries) often are the most painful areas after surgery. Surgical debridement, positioning, and physical therapy also increase pain levels. Pain caused by such procedures, also known as iatrogenic pain, can result in an anticipation of pain. Responses may include crying, shouting, demanding medications, refusing to cooperate with treatment, or insisting on staying in bed. Adequate pain control is thus a central goal, as are minimizing disruptive behavior and increasing cooperation.

Iatrogenic pain is best managed with short-acting opioids such as fentanyl or, for less painful procedures, oral morphine given one hour before treatment. Morphine is the drug of choice for treating background pain because of its predictable analgesic effects, its safety profile, and its ease of reversibility with naloxone. Although anxiety commonly accompanies acute pain, use of anxiolytics should be limited because of their side effects, which include respiratory depression, confusion, and drowsiness. Anxiolytics should only be given if the patient continues to be anxious after his pain is adequately controlled.10

**Strategies for support.** Although each patient copes differently, several interventions are appropriate for all burn victims: active listening, answering questions about activities of daily living, and helping patients to understand how to respond to others’ questions and their seemingly rude stares. It may also help to

- explain to patients their potential emotional reactions, including self-consciousness, anger, embarrassment, and a tendency toward isolation, which may serve as encouragement to avoid a “social death” as a result of the injury.
- maintain basic social interaction through daily nursing care.
- give patients as much decision-making ability as possible in the timing of dressing changes, therapy, and analgesic dosing schedules.
- prioritize their daily challenges as well as long-term goals.

**TAKING CARE OF YOURSELF**

At times, you may feel distraught when confronting the disfigurement and pain of severely burned patients. Common coping responses include distancing behaviors: emotional distancing, as when focusing on the physiologic aspects of patient management, or physical distancing, as when minimizing patient contact.

The best way to handle these responses is to be aware of your interactions with patients and attempt to spend more time with them. When daily assignments are rotated, consistency of care becomes an issue. This can be addressed by following a specified nursing care plan. Creating an atmosphere that allows for staff “venting” and problem solving may also be helpful. For example, an informal meeting could be arranged by the clinical manager on the unit to openly discuss patient care experiences and staff morale; alternatively, a psychiatric clinical nurse specialist could be contacted to organize a more formal group discussion.

You may want to seek out ongoing emotional support through informal conversations with coworkers, formalized team and patient care conferences, or episodic debriefing sessions held by a critical incident stress debriefing team that addresses secondary traumatic stress (if your facility doesn’t have this type of team, contact your employee assistance program, or ask one of your facility’s social workers or clergy members to organize a group crisis intervention session). One of the most therapeutic ways for staff to cope is talking with former burn patients and to hear how they have adapted to their injuries. ▼

**REFERENCES**

GENERAL PURPOSE: To present registered professional nurses with an overview of the scope and management of thermal injuries, including stage-related care and recovery.

LEARNING OBJECTIVES: After reading the three articles on burn trauma in this issue and taking the test on the next page, you will be able to:

- Outline the incidence, causes, and individual and societal implications of burn trauma.
- Discuss the three major stages of post-burn recovery.
- Describe the parameters and techniques essential for an accurate assessment of burn patients.
- List interventions for patients recovering from burn injuries.

To earn continuing education (CE) credit, follow these instructions:

1. After reading the three articles on burn trauma in this issue, darken the appropriate boxes (numbers 1–35) on the answer card between pages 40 and 41 (or a photocopy). Each question has only one correct answer.

2. Complete the registration information (Box A) and help us evaluate this offering (Box C).*

3. Send the card with your registration fee to: Continuing Education Department, Lippincott Williams & Wilkins, 345 Hudson Street, New York, NY 10014.

4. Your registration fee for this offering is $19.95. If you take two or more tests in any nursing journal published by Lippincott Williams & Wilkins and send in your answers to all tests together, you may deduct $0.75 from the price of each test.

Within six weeks after Lippincott Williams & Wilkins receives your answer card, you’ll be notified of your test results. A passing score for this test is 26 correct answers (75%). If you pass, Lippincott Williams & Wilkins will send you a CE certificate indicating the number of contact hours you’ve earned. If you fail, Lippincott Williams & Wilkins gives you the option of taking the test again at no additional cost. All answer cards for this test on Burn Trauma must be received by November 30, 2003.

This continuing education activity for 3 contact hours is provided by Lippincott Williams & Wilkins, which is accredited as a provider of continuing nursing education (CNE) by the American Nurses Credentialing Center’s Commission on Accreditation and by the American Association of Critical-Care Nurses (AACN 9722, category A). This activity is also provider approved by the California Board of Registered Nursing, provider number CEP11749 for 3 contact hours. Lippincott Williams & Wilkins is also an approved provider of CNE in Alabama, Florida, and Iowa, and holds the following provider numbers: AL #ABNP0114, FL #FBN2454, IA #75. All of its home study activities are classified for Texas nursing continuing education requirements as Type 1.

*In accordance with Iowa Board of Nursing administrative rules governing grievances, a copy of your evaluation of this CNE offering may be submitted to the Iowa Board of Nursing.