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The Role of the Clinical Psychologist on a Burn Unit in a General Teaching Hospital

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This paper reviews the core skills that a clinical psychologist brings to a burn unit and suggests a model for optimal psychological management of burn patients, families, and staff. Recovery from a burn injury involves three stages that comprise (a) acute treatment of severe medical complications, (b) adjustment to hospitalization, and (c) long-term rehabilitation. Each stage contains numerous issues that the clinical psychologist should monitor and manage. Assessment of patients at risk, early intervention, and specialist management are highlighted as critical components of effective psychological management of burn injury in a multidisciplinary team context.

KEY WORDS: health psychology; burns; coping; medical procedures; posttraumatic stress.

INTRODUCTION

Sustaining a serious burn is a most painful and debilitating injury (Choiniere, Melzack, Rondeau, Girard, & Paquin, 1989). Although most patients eventually adjust to their burn injury relatively well, many patients suffer significant psychological distress during the first year after injury (Patterson, Everett, Bombardier, Questad, Lee, & Marvin, 1993). Although there is a considerable body of literature that addresses the psychological management of burn injuries (Achterberg, Kenner, & Lawlis, 1988; Elliott & Olsen, 1983; Wernick, Jaremko, & Taylor, 1981), little is written about

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the role that a clinical psychologist should play in a multidisciplinary burn unit (Gilboa, Shafir, Tsur, & Floro, 1984). The purpose of this paper is to review the core skills that a psychologist brings to a burn unit and to offer a model for optimal psychological management of a burn injury within a multidisciplinary unit.

ACUTE STAGE

The acute stage of hospitalization is characterized by the management of the physically traumatized patient. The immediate needs of a burn patient center on acute medical treatment that provides pain relief and management of burned skin. Although the emphasis of treatment during this phase is predominantly medical, the patient has strong psychological needs.

Pain Management

Opioids are the primary form of analgesic provided to burn patients. The most common analgesics administered during debridement are morphine and meperidine (Perry & Heidrich, 1982). Many burns units also use psychotropic drugs, such as diazepam (Perry & Heidrich, 1982). Despite the strong analgesic effects of maximum dosages of opioids, many patients report extreme levels of pain during dressings, debridements, and skin grafts (Everett, Patterson, & Chen, 1990). The clinical psychologist can provide psychological techniques to facilitate pain management. Specifically, the clinical psychologist can teach the patient (a) to reduce anxiety responses during painful periods and (b) to develop cognitive strategies that distract the patient from painful sensations. A considerable body of literature exists pertaining to the efficacy of psychological management of burn pain (Achterberg *et al.*, 1988; Blew, Patterson, & Questad, 1989; Elliott & Olsen, 1983; Tobiasen & Hiebert, 1985; Wernick *et al.*, 1981). Tobiasen and Hiebert (1985) reported that teaching burn patients relaxation and distraction techniques resulted in less reported pain, increased adjustment, and shorter hospitalization. Achterberg *et al.* (1988) reported that combining relaxation and imagery techniques resulted in more effective pain management than relaxation alone. Wernick *et al.* (1981) reported encouraging results following a stress-inoculation program. Patients received instruction in (a) education about stress and pain, (b) relaxation training, and (c) cognitive restructuring. For example, patients were taught to iden-

tify dysphoric thoughts (e.g., "I think I am going to die") and assisted in developing more constructive cognitions (e.g., "The dressing will not last for ever"). Importantly, the therapist helped patients to rehearse strategies both imaginally and during dressings and baths. Recent work also points to the efficacy of hypnosis as an adjunct to opioid analgesia. In the only well-controlled study of hypnotic analgesia, burn patients receiving hypnotic suggestions for analgesia and relaxation reported less pain than those receiving attention or no intervention (Patterson, Everett, Burns, & Marvin, 1992). Further work is required to delineate the components of hypnotic intervention that are optimally effective and to evaluate the utility of hypnotic analgesia for patients with varying degrees of hypnotizability.

Although these studies indicate encouraging results with cognitive-behavioral intervention, these results must be considered preliminary at this stage. Outcome studies of cognitive-behavioral interventions with burn pain have been hampered by nonrandomized sample selection, unreliable pain measures, heterogeneous burn injuries, lack of adequate control groups, and varying degrees of control of other analgesic agents. These factors may play an important role in mediating the success of psychological interventions. For example, Blew *et al.* (1989) reported that the efficacy of cognitive-behavioral strategies was restricted to pain that was not severe. More sophisticated studies are required to identify the components of cognitive-behavioral interventions that assist specific types of burn patients in the framework of strict experimental designs.

Elliott and Olsen (1983) reported that the efficacy of pain management strategies with pediatric burn patients deteriorated significantly when the therapist was not present to facilitate employment of such strategies. The clinical psychologist should work with therapists during painful procedures, assisting the patient to employ relaxation and cognitive strategies to minimize the pain response. It is useful for the clinical psychologist to instruct other therapists involved in the medical treatment of the patient in the use of appropriate pain management techniques. This useful practice can be difficult to implement in many clinical settings because of the diversity in knowledge and approach of members of a multidisciplinary team. For example, many therapists on burn units display inaccurate knowledge about the use of hypnosis as an analgesic tool (Bryant, 1993). The clinical psychologist needs to ensure that nonpsychologists have sufficient in-service training in psychological issues to provide appropriate support and advice in the clinical psychologist's absence (Belar, Deardorff, & Kelly, 1987). Specific needs of the individual patient should also be communicated to team members so that a standardized approach of psychological management is maintained.

Education

During the acute stage, patients may need to be educated about the nature of medical procedures that will be conducted. Research on surgical procedures indicates that providing patients with information concerning medical interventions can enhance their coping capacity (Wilson, Moore, Randolph, & Hanson, 1982). Providing information to patients needs to be done selectively, however, as recent findings suggest that coping with a medical intervention is enhanced only when the amount of information provided is matched with the patient's desire for information (Ludwick-Rosenthal & Neufeld, 1993). Education about the possible psychological responses that may be experienced may also be helpful for some patients. This education can serve four purposes. First, it legitimizes the patient's symptoms in a manner that the patient recognizes unusual subjective responses as normal reactions. Second, the patient should be encouraged to alert appropriate team members when these symptoms are experienced. Third, it allows patients to prepare strategies to manage these symptoms before they arise. And fourth, it encourages the patient to develop a perception that these symptoms can be managed with appropriate intervention.

Anxiety Responses

The management of psychological difficulties during the initial stage of hospital admission to focus on immediate posttraumatic responses. The importance of these immediate symptoms has recently been recognized in the DSM-IV, which diagnoses acute stress disorder when anxiety and intrusive symptoms are present for at least 2 days after a traumatic event (American Psychiatric Association, 1994). Most of these acute stress responses are transient and will gradually remit during hospitalization (Patterson *et al.*, 1993). Accordingly, patients should be provided with support, education, and encouragement to discuss their trauma when they feel comfortable to do so. It needs to be recognized that burn patients may still be experiencing their trauma during this phase because the pain associated with hospital procedures can be as traumatic as the injury itself (Perry *et al.*, 1981). Consequently, it is often contraindicated to commence more directive therapy of traumatic memories at this stage.

Many patients experience significant anxiety following a burn injury because of the trauma of the accident, the pain, and the hospitalization. The prevalence of anxiety symptoms has been reported in 47% of patients during Week 1 and 13% of patients in Week 4 (Bereni-Marzouk, Gia-

calone, Thieulard, & Wassermann, 1981). Accordingly, patients should be assessed to index their level of anxiety. Patient care can be enhanced by teaching anxious patients simple anxiety management skills. Hyperventilation is a common response, especially during periods of extreme pain, and patients should be rehearsed in adaptive breathing exercises. Standard muscle relaxation exercises may not be suitable for most patients because isometric muscle tension exercises may cause extreme pain associated with the contraction of burned skin. Many patients can respond positively to mental imagery and distraction that assists them to relax (Achterberg *et al.*, 1988). Anxiety management should also include instruction in cognitive responses to trauma and the need to practice cognitive restructuring to minimize the degree of anxiety-producing cognitions that the patient may experience during this initial traumatic phase.

Family Issues

The initial phase after the burn injury can be very traumatic for family members. Although many anecdotal reports of family reactions exist, there is little structured research into family responses to burn patients (Knudson-Cooper, 1984). Recent studies have indicated that as many as 50% of relatives experience significant anxiety and depression (Cella, Perry, Kulchycky, & Goodwin, 1988) and acute stress responses (Cella, Perry, Poag, Amand, & Goodwin, 1988) during the acute phase. This can be a critical factor in the therapeutic context because family support can influence burn adjustment (Browne *et al.*, 1985). Most relatives are ignorant about the nature and course of a burn injury and their immediate response is often to panic. This is aggravated by the grotesque appearance of burned skin, which often leads relatives to believe that the patient is severely ill and, at best, will be permanently scarred. Family members need to receive appropriate education about the likely course of the injury. Staff are often unable to predict the course of recovery at the initial phase because the recovery process typically changes rapidly, and forecasts of recovery are often changed several times a week. This uncertainty prevents family members from establishing a framework in which they can adapt to the trauma and expect certain milestones of recovery. Family members need reassurance that such uncertainty is normal. Providing the family with counseling and anxiety management skills may enhance their own coping ability during the acute phase. Family members will have frequently been present at the injury or have been involved in the immediate care of the patient following the injury. Posttraumatic responses need to be monitored in family members. Guilt and anger issues are common responses following an injury of

this nature, however, family members are commonly unsure how to experience or express certain emotions during this traumatic phase. Relatives should be provided with the opportunity to discuss all emotional responses in the acute phase.

SECONDARY STAGE

After the immediate crisis has eased, the burn patient gradually shifts to a secondary stage that is marked by continued treatment of burned skin and gradual commencement of rehabilitation procedures. While the acute stage is characterized by patients adopting dependent and passive behavior, the secondary stage requires patients to increase their independence and activity.

Identification of Patients at Risk

A critical role for the clinical psychologist is to identify the burn patient who requires psychological intervention. A significant proportion of burn patients appears to be vulnerable to psychopathological reactions because burn patients have a higher proportion of preinjury psychopathology than other medical patients. The reported incidence of preinjury psychiatric illness ranges from 28% to 75% (Brezel, Kassenbrook, & Stein, 1988; Davidson & Brown, 1985). It is theorized that many burn injuries occur because of behaviors arising from preexisting psychosocial problems (Patterson *et al.*, 1993). Despite this vulnerability, however, most burn patients do not appear to suffer long-term psychological dysfunction. Contrary to common belief, most children (Tarnowski, Rasnake, Gavaghan-Jones, & Smith, 1991) and adults (Patterson *et al.*, 1993) display adequate adjustment at 12 months postinjury. This pattern underscores the need for appropriate identification of individuals who may be at risk of developing long-term psychological disturbance.

Posttraumatic Stress Disorder

Posttraumatic stress disorder (PTSD) continues to cause distress to burns patients during this stage. To evaluate posttraumatic stress symptoms, the clinical psychologist may conduct a brief diagnostic interview or, when appropriate, administer a brief inventory. The Impact of Event Scale (Horowitz, Wilner, & Alvarez, 1979) is a brief item that provides useful information concerning intrusive and avoidance posttraumatic symptoms.

The patients' readiness to integrate trauma-related matters should be monitored at this stage because avoidant coping styles are predictive of posttraumatic symptomatology following burns (Bryant, 1996). For example, patients who are reluctant to view their scars or refuse visitors may be displaying excessive avoidance tendencies. The focus of management at this stage can shift marginally because the clinical psychologist can be more directive in encouraging the patient to integrate traumatic memories and to ensure that excessive avoidance does not occur. The patient should be provided with opportunity to discuss aspects of the injury that may be particularly distressing. Findings from non-burn PTSD studies indicate that graded exposure to trauma-related memories and stimuli can facilitate adjustment following trauma (Foa, Rothbaum, Riggs, & Murdock, 1991).

Following the trauma of being burned, patients may attempt to attribute their injury to causes that are congruent with their self-perceptions. Many patients are angry at themselves, others, or God, depending on their perception of the cause of their injury. Patients may need to express their frustration in an open manner with a therapist who is not directly providing physical therapy. Frustration concerning the cause of the injury can be compounded by the frustrations of hospitalization and the painful treatment procedures associated with burn injuries. Burn patients often displace their anger onto relatives and staff, and the clinical psychologist can play an active role in providing the patient with a forum in which anger can be expressed constructively.

Family Issues

As the treatment phase continues, families require ongoing support. Studies of family responses indicate that although the incidence of psychological distress decreases over the initial 6 weeks after the injury, many relatives still suffer clinical levels of posttraumatic stress (Cella, Perry, Kulchycky, & Goodwin, 1988). As time proceeds, different issues tend to become primary concerns for relatives. Fears for the patient's safety tends to be replaced by concerns over adjustment matters such as financial losses, relationship issues, and changes in responsibility allocation (Cella *et al.*, in press). Relatives may need to respond to the patient's changing mood states and frequently require advice on how to respond to the patient's depression, anger, or withdrawal. Special attention should be given to relatives' guilt responses. Whereas financial pressures, burn severity, and marital status are not predictive of stress reactions, self-blame is a strong predictor of relatives' long-term stress reactions (Cella, Perry, Kulchycky, & Goodwin, 1988).

Self-Image

Contrary to common belief, recent work indicates that scarring is not predictive of psychological adjustment (Patterson *et al.*, 1993; Perry, Difede, Musngi, Frances, & Jacobsberg, 1992). Nonetheless, many burn patients need to resolve long-term issues relating to body scars (Cash, 1991). Intervention should aim (a) to encourage discussion of body-image concerns, (b) to offer cognitive restructuring to increase more adaptive perceptions of their body, and (c) to encourage reality-testing of their perceptions by monitoring others' responses to their injury. Hypnotic and cognitive exercises that boost self-esteem can also be useful as this stage (Koe & Oldridge, 1987).

Management Issues

The secondary stage is characterized by intensive physiotherapy and rehabilitation procedures that are inherently painful. Patient compliance is critical because if regular exercises are not completed, patients risk long-term contractures of skin that can permanently impede functional capacity. The clinical psychologist is frequently required to enhance patient compliance in therapeutic situations where the patient is reluctant to proceed because of the aggravated levels of pain. Behavioral modification programs have been shown to be effective in increasing compliance in burn patients (Hegel, Ayllon, Vanderplate, & Spiro-Hawkins, 1986; Simons, Morris, Frank, Green, & Malin, 1979). For example, initiating a positive reinforcement schedule that rewards completion of physical exercises or introducing a self-directed exercise program can enhance the frequency of therapeutic exercise. Clinical psychologists should be aware of the potential conflict of interests when providing services to both staff and patients in a hospital setting (Miller & Swartz, 1990). For example, staff requests to employ behavioral techniques to enhance the patient's compliance to exercise regimes may be in direct contrast to the patient's desire for less demanding expectations. The clinical psychologist needs to consider whether the primary responsibility is to the patient or the staff, and means of resolving any conflicting commitments need to be developed.

Staff Support

Burn therapists work in a highly stressful environment. Their patients at times do not survive and they often have to confront the brunt of both the patients' and the relatives' anger when subjected to necessary medical

procedures which cause acute pain. Medical and nursing staff on pediatric burn units may be particularly susceptible to experiencing negative responses in reaction to the burned child's distress. Surveys of pediatric nurses indicate that many experience anxiety and helplessness in response to the children's burn pain (Atchison, Guercio, & Monaco, 1986). The clinical psychologist can play an important role in reviewing stress levels of therapy staff and providing appropriate group and individual intervention. The clinical psychologist should be available to members of the treatment team to allow them to ventilate their emotional responses to patient treatment. Therapy staff should also be provided with education about patient responses and suitable intervention strategies.

Professional Relationships

Previous reviews have pointed to the importance of collaboration between medical and psychological therapists of burn patients (Pruzinsky, 1989). Burn units typically operate under the authority of medical personnel who supervise the role of the clinical psychologist. It is common for psychologists to lack autonomy within medical settings (Rozensky, 1992). The role of the clinical psychologist on the burn unit will be enhanced by actively participating in multidisciplinary activities, such as grand rounds, case conferences, research, in-service training, and quality assurance projects (Rozensky, 1992). Through demonstrating the effectiveness of psychological expertise in management of burn injuries, medical authorities are more likely to acknowledge the utility of the clinical psychologist on the burn unit.

REHABILITATION STAGE

The rehabilitation state of treatment involves long-term outpatient management. This stage focuses predominantly on adjustment issues as the patient attempts to return to preinjury functioning levels.

Psychological Adjustment

Most reports indicate that psychological distress that occurs in the year after injury typically subsides following this period (Andreasen & Norris, 1972; Chang & Herzog, 1976). PTSD has been reported in 22% to 45% of burn patients 12 months postinjury (Bryant, 1996; Perry *et al.*, 1992; Roca, Spence, & Munster, 1992). Although many patients may not satisfy

diagnostic criteria for PTSD, many will experience subclinical levels of posttraumatic stress. The most common form of response appears to be anxiety associated with the trauma and avoidance of situations that resemble the trauma. The patient can be taught gradual desensitization to events that are being excessively avoided. Graded programs that allow the individual to employ anxiety management techniques in situations that are inappropriately feared can reduce avoidance behavior (Calhoun & Resick, 1993). Chronic and delayed PTSD are potential outcomes in a proportion of burn patients, and so regular assessments need to be conducted up to a year after discharge. Many distressed burn patients do not seek psychological assistance (Bryant, 1996), so integrating psychological review into patients' regular rehabilitation reviews can facilitate identification of patients requiring psychological intervention.

Depression can develop as the patient becomes more aware of losses sustained in the injury. Following discharge, patients tend to reduce vocational activity, social interactions, and physical activity (Browne *et al.*, 1985). Approximately half of adult burn victims alter their employment status (Chang & Herzog, 1976). Accordingly, patients may need to deal with issues of reduced income and functional capacity, less independence, poor self-esteem, and social withdrawal.

Family Issues

Some relatives of the burn patient continue to need psychological support following the patient's discharge from hospital. The majority of studies that have investigated relatives' long-term adjustment to a burn have addressed parents' responses to their children's burns (Browne *et al.*, 1985; Martin, 1970; Sawyer, Minde, & Zuker, 1983; Woodward, 1959; Wright & Fulwiler, 1974). Many of these studies have indicated the depression, anxiety, and guilt that parents experience following a child's burn (Meyer *et al.*, 1994). In summarizing these studies, however, Tarnowski *et al.* (1991) conclude that no definitive conclusions can be drawn because of small and potentially biased sample sizes, lack of control groups, reliance on parental reports, and lack of structured diagnostic interviews. Interestingly, although considerable research points to the tendency for most children to adjust positively after a burn injury (Blakeney *et al.*, 1993), many parents of pediatric burn patients perceive greater difficulties in their children than the children themselves do (Meyer *et al.*, 1994). Considering the significant impact that parents' behavior can have on the adjustment of pediatric burn patients (Blakeney *et al.*, 1993), parental responses should be reviewed during this tertiary stage.

In terms of adult patients' relatives, Cella, Perry, Kulchycky, and Goodwin (1988) reported that 25% of relatives continue to display significant posttraumatic stress symptoms 6 months after discharge. A new range of stressors develops after the patient returns home, because in most cases the family becomes the primary caregiver. Difficulties in resuming previous roles can lead to depression, loss of self-esteem, and guilt. Issues related to productivity, independence, and sexual relations may need to be addressed as the patient and family attempt to continue with their previous duties. The clinical psychologist needs to monitor relatives' levels of distress and arrange for appropriate management for those requiring assistance.

Self-Image

Self-image concerns may intensify after discharge because patients are more exposed to public view. The stigma of being scarred can be compounded by the necessity of wearing visible garments for 1 or 2 years after discharge to reduce scarring. Burn patients tend to decrease activities that involve physical appearance (Andreasen & Norris, 1971). Patients can become withdrawn following discharge, and avoidance behavior can become entrenched if social patterns are not closely monitored. Following discharge, problems with social and sexual behavior may need to be discussed. Sexual satisfaction commonly decreases after burn injuries, especially in women (Tudahl, Blades, & Munster, 1987). Marital difficulties may also arise because patients are concerned that they are no longer attractive to their partner. This important issue is often neglected in follow-up reviews and this omission can contribute to ongoing marital dysfunction.

RESEARCH

It needs to be recognized that the clinical psychologist also brings to the burn unit a range of research skills. The clinical psychologist is often one of the few personnel in a medical setting who has strong scientist–practitioner training that includes expertise in research methodology (Malec, 1991). Much of the reported research with burn patients has been flawed by methodological weaknesses (Patterson *et al.*, 1993; Tarnowski *et al.*, 1991). Specifically, many of the findings must be considered tentative because most studies have lacked adequate control groups and sample sizes, double-blind designs, bias sample selections, and adequate measures and follow-ups. The clinical psychologist needs to be involved actively in initiating and supervising research that address quality assurance, processes

that mediate reactions to burn injuries, and treatment outcome evaluation. Through more rigorous research, the clinical psychologist will play a critical role in developing our understanding of the psychological responses to burn injuries.

CONCLUSIONS

Although many burn units are serviced by a range of mental health professionals, including social workers and liaison psychiatrists, the clinical psychologist appears to provide both a unique and a specific service. Psychiatrists are typically required to manage patients who are psychiatrically or behaviorally disturbed to an extent that medication is indicated to manage the problem (Antebi, 1993). Clinical psychologists appear to play a more systematic role in that many burn patients require the expertise of a clinical psychologist who can provide behavioral, cognitive, and systemic skills to assist the patient, relatives, and staff on a burn unit. Figure 1 presents a model of the clinical psychologist's role on a burn unit.

The emphasis of this model is on (a) screening of patients at critical milestones following a burn injury, (b) providing early intervention to prevent or limit adverse psychological reactions, and (c) providing specialist skills to manage the problems that emerge following a burn. A premise underlying this model is that not all burn patients react similarly to their injury and that reactions can change over the course of recovery. Recent work that has employed rigorous methodologies has indicated that com-

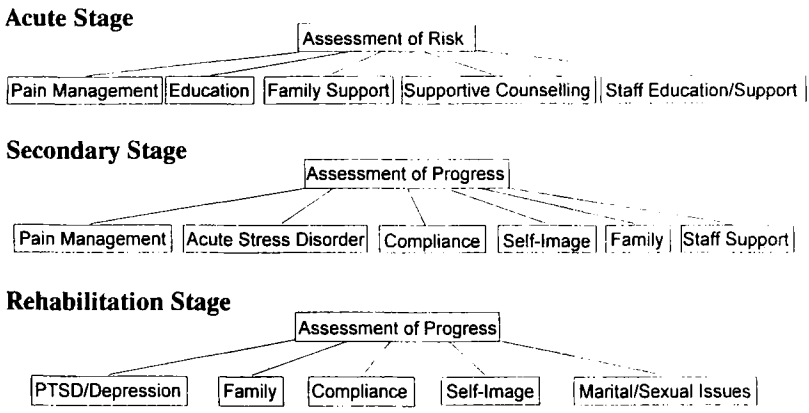

Fig. 1. Model of the clinical psychologist's role on the burn unit.

monly held beliefs that most burn patients suffer long-term psychopathological reactions are not supported by empirical findings (Patterson *et al.*, 1993). This pattern points to the importance of identifying those burn patients who are at risk of developing psychological problems and providing them with appropriate intervention. The model emphasizes the importance of regular assessment to evaluate the need for psychological intervention. Accordingly, the model is structured in three stages that correspond to the different needs of patients during acute, secondary, and rehabilitation stages of burn recovery.

It is proposed that a model of psychological services on a burn unit needs to be flexible and responsive to the specific needs of the patient and the burn unit. We recognize the different needs for psychological services for adult and child burn patients. Previous work on psychological adjustment to burn has been confounded by the failure adequately to distinguish between adult and child patients (see Tarnowski *et al.*, 1991). There is an increasing awareness of the specific needs of pediatric burn victims and, accordingly, of the necessity for age-appropriate intervention procedures by clinical psychologists. For example, the role of family education and participation may be given additional emphasis in the case of the child burn patient. Further, psychological pain management techniques may require more structured input for pediatric patients than adult patients (Elliott & Olsen, 1983). Inherent in the proposed model is the understanding that the individual needs of any patient will be assessed within the suggested framework. In this sense, this model aims to encompass the range of potential duties of a clinical psychologist on a burn unit and can be adopted as a framework in which the specific needs of an individual patient and a particular burn unit can be effectively met. Refinement of a model of the role of clinical psychology services for burn patients should enhance the utility of clinical psychologists in burn units and facilitate better patient and family care.

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