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# Dance/Movement Therapy for Children and Adolescents with Cancer

**PURPOSE:** Dance/movement therapy is introduced as a holistic approach to children's health issues, incorporating an array of medical, psychological, social, and spiritual issues.

**OVERVIEW:** Dance/movement therapy, with its unique emphasis on nonverbal communication in assessment and treatment, is presented as an innovative therapeutic approach to address the comprehensive needs of children and adolescents with cancer.

Dance/movement therapy assessment and intervention strategies are discussed in the context of cognitive, emotional, and social developmental processes, as well as models of stress and psychological adjustment in pediatric cancer.

**CLINICAL IMPLICATIONS:** The inclusion of dance/movement therapy as part of the interdisciplinary team addressing the psychosocial needs of children and adolescents with cancer facilitates greater integration of factors related to coping. By its very nature, this modality offers constructs that promote holistic approaches to cancer care.

**KEY TERMS:** Cancer; Chronic illness; Dance/movement therapy; Development, pediatric

During the past several years, there has been a significant increase in the awareness of the psychosocial stressors placed on children and adolescents with chronic illness. In many centers, treatment has expanded to include a number of innovative and complementary therapy modalities, such as creative arts therapies and child life. The majority of the literature on coping with chronic illness focuses on verbal concepts, their expression, and related affective responses.<sup>1</sup> The unique contribution of dance/movement therapy lies in its emphasis on the meaningful nuances and subtleties of body movement. Especially be-

cause disease processes related to cancer have such a profound impact on the body and the related body image, dance/movement therapy appears to be an untapped resource to facilitate coping with this chronic, life-threatening illness. This paper is a review of the theoretical underpinnings and the practice of dance/movement therapy to facilitate psychological adjustment in children and adolescents with cancer. A stage-by-stage review of developmentally sensitive dance/movement therapy interventions is provided, with case studies and descriptions of therapy group processes to exemplify the many theoretical and clinical issues involved.

## Overview of Key Premises and Models

The origins of dance/movement therapy may be traced to the 1950s, and the field has expanded rapidly since. Although an array of theoretical orientations has been invoked, a common thread is the focus on body movement as a manifestation of thoughts and feelings.<sup>2</sup> It should be noted that "dance" and "movement" are each viewed in their broadest context to encompass elements of traditional dance forms, patterns of movements, gestures, postures, and more subtle aspects of nonverbal communication.

During the past two decades there has been an increasing emphasis on the interface between physiologic and psychological processes (mind-body or holistic medicine approaches), but only recently has dance/movement therapy

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been considered as a modality to further explore these relationships.<sup>3</sup> A fundamental premise is that psychological processes, such as affect and cognition, are expressed consistently on a nonverbal level. This concept is hardly exclusive to dance/movement therapy, because most people would acknowledge that certain gestures, eye contact, and interpersonal distancing all have specific recognizable meanings. It has also long been acknowledged that internal physiologic processes manifest in observable ways as well. For example, there are certain behaviors that are reliable indicators of pain or discomfort.

The interactive relationship between somatic and psychological processes has come to the fore in the medical literature, especially in light of the trend toward reevaluation of the Cartesian dualism between mind and body that has been at the core of scientific medical research and practice. Increasingly, results from studies on psychoneuroimmunology,<sup>4</sup> cardiovascular disease,<sup>5,6</sup> pain,<sup>7,8</sup> and other areas of behavioral medicine<sup>9,10</sup> emphasize the need to view the interplay between somatic manifestations of disease and psychological constructs.

These models still imply some causal direction—that affect or cognition, on the one hand, affect physiologic changes or nonverbal behavior on the other. The unique premise of dance/movement therapy is that psychological and somatic constructs are truly identical, that one necessarily implies the other, and that it is merely the perspective or “point of entry” that differentiates them. The clear therapeutic implication is that modifying any of these elements, by necessity, leads to changes in the others.

Consider, for example, adolescents who are uncomfortable with observed changes in their bodies (perception and cognition), responding with anxiety and withdrawal (affective). On a body level, there would be a narrowing and retreating in the upper body, shoulders slumping forward, with a degree of tension and restlessness. The reader is encouraged to adopt this posture and to notice the intrinsic feelings of withdrawal, inadequacy, and a diminished sense of self-efficacy that arise. A simple intervention would be to reshape the postures and movement dynamics, initiating revisions in self-concept and feelings of security.

## Assessment in Dance/Movement Therapy

Although within dance/movement therapy there are multiple systems of analysis and intervention, discussion here is limited to concepts and means of assessing movement behavior that are fairly universal. Laban movement analysis involves a comprehensive notation system of body movements that may be integrated to define aspects of intra- and interpersonal functioning.<sup>2</sup> This system incorporates Bartenieff fundamentals, which stress identified anatomic functional aspects of movement, such as center of weight, connectedness, and muscle tension and relaxation, to address body awareness and feeling.

As is the case with any discipline, the precise operational definition and specific application of terms are essential. Within Laban movement analysis, there are four basic

elements for observing and evaluating movement behavior: effort, shape, body, and space.<sup>11</sup> *Effort* refers to the qualitative aspect of movement action; how the person concentrates the exertion of certain movements. Four continua—strong to light, quickness to sustainment, freedom to boundness, and directness to indirectness—constitute the parameters through which effort is assessed. *Shape* describes the manner in which the body forms itself in space, denoting changes in how body parts move in relation to each other. *Body* pertains to anatomic and kinesthesiological aspects of movement behavior. In addition to noting elements of the musculoskeletal system involved in a specific movement, including areas of initiation, the integration of various body regions is observed. *Space* refers to movement in geometric planes and dimensions, pathways (direction and means of motion), locomotion (traveling through space), and kinesphere (variations in the degree of extension into space).

The familiar gesture of a handshake may demonstrate these elements. How strong is the person's grip? How quickly is the handshake initiated? Does the grip linger? How controlled and careful is the handshake? How focused is the person on the handshake? These represent key elements of *effort*. How do the hands surround or enclose each other? This is the central aspect of *shape*. How much of the person's upper body is being used in the handshake? What are the interactions among the body parts during the sequence of the entire handshake? These questions refer to *body*. Last, what is the nature of the approach for the handshake? How far are the arms extended? How far apart are the people standing? These are elements of *space*. All persons may notice certain aspects of a handshake and begin to make inferences about those involved or their interaction based on those observations; in dance/movement therapy, such observations are structured, defined, and used in a therapeutic process.

Within the field of dance/movement therapy, constructs such as effort, shape, body, and space are accepted widely and applied clinically. It is an innovative challenge to implement the modality in the context of chronic illness in childhood, where models of normal development are integrated with coping and adjustment.

## Developmental Model of Stress and Psychological Adjustment

For many years, the modal research question focused on differences between children with cancer and healthy peers along some index of adjustment or development. Analyses highlighted between-group differences in outcomes. The consensus finding was that children with cancer had greater psychological adjustment problems than did healthy peers, but not as severe as those found in samples of children referred for psychiatric treatment.<sup>12</sup> Although these data were important, because they demonstrated that, as a group, children with chronic illness are at risk, there were a number of methodologic insufficiencies that limited clinical application.<sup>13</sup> Outcomes were framed in terms of psychopathology, thereby unnecessarily linking (often di-

rectly) chronic illness to emotional disturbance. In addition, these data provided no insights into the process underlying the observed changes, and they did not address observed within-group differences.

Russo<sup>14</sup> stated that the psychological impact of chronic illness must be viewed in the context of chronicity and normalcy rather than as deviations from the norm. Three key steps are involved in this process: 1) identification of chronic stressors and daily hassles associated with that condition; 2) definition of outcomes related to those stressors; and 3) recognition of variables that may moderate the relationship between stressors and outcomes. The major task of researchers becomes delineating the relationships among risk and resistance factors to gain understanding of the specific mechanisms of change and to generate predictive models of outcome.<sup>15-17</sup>

### *Social Ecology Model*

Kazak<sup>18</sup> applied a social ecology model of human development (initially defined by Bronfenbrenner<sup>19</sup>) to coping with chronic illness and disability, with a primary emphasis on the family. Walco et al<sup>20</sup> integrated factors related to social ecology with ontogenetic variables, resulting in a model that includes the following multiple levels of analysis, all of which potentially interact: developmental factors related to the individual (ontogenesis), microsystem (home and immediate family), mesosystem (school settings, medical care settings, and religious institutions), exosystem (parental social supports), and macrosystem (religious beliefs, cultural norms, and geopolitical influences). When examining the effects of interventions provided in a medical setting (mesosystem level), the consideration of the broader social environment is essential.

### *Stressors*

In the past, the major psychological stressor associated with pediatric cancer was considered to be the child's impending death. It is now far more reasonable to conceptualize pediatric cancer as a chronic disease with an uncertain outcome. Among elements associated with chronicity, children and families face feeling poorly, repeated invasive procedures, major side effects of treatments, radical changes in physical appearance, missing school, interactions with friends, financial burdens, trips to the hospital, and missed work. Uncertainty of outcome makes coping even more difficult because there is no specific recognizable endpoint or any guarantee that the disease will remit or be cured.

Essential tasks for coping were identified in two major studies of survivors of childhood cancer. Koocher and O'Malley<sup>21</sup> stated that the child and family must learn 1) to manage distress, 2) to maintain a sense of personal worth, 3) to maintain rewarding interpersonal relationships, and 4) to use available resources to meet specific situational demands. In a longitudinal series, Kupst and Schulman<sup>22</sup> identified a number of adaptive tasks for families, including 1) understanding the realities and implications of the disease, treatment, and long-term survival, 2) management of emo-

tional reactions, and 3) developing the capacity to address medical issues, to deal with other responsibilities and activities, and to use available resources effectively.

Integrating these findings in the context of normal development has provided a useful platform for the implementation of a dance/movement therapy program. Essential tasks for coping include intrapsychic and interpersonal processes that are inextricable with body movement expression and function. Specific content issues and modes of intervention, however, are directly related to developmental stage.

### *Developmental Stages*

**Infancy.** In the neonatal period, nervous system activity focuses on the maintenance of homeostasis, and survival predominates the infant's interaction with the world. As the infant develops, the regulation of many physiologic systems is becoming more integrated and refined, and socioemotional experiences take on increasing importance. Thus, early in infancy states of consciousness (alternating between sleep and awake cycles), quiet and active alertness, and crying are probably the most potent communicators of perceptions of comfort or distress.<sup>23</sup> Over time, as a trusting relationship with caregivers develops, the infant's attempts to attain environmental support for well-being, through attunement and empathy, cannot be separated easily from physical experience.

A central question is the degree to which these developmental processes are affected by chronic illness. On an ontogenetic level, development can be disrupted because of a restriction in motor activity, to invasive procedures that stimulate distress and pain, and to the onslaught of multiple medical caregivers and treatments.<sup>24</sup> Separations from parents, repeated hospitalizations, increased parental anxiety, and disruptions in family functioning affect the infant's perceptions and reliance on a consistent environment with trusting relationships. The comprehensive assessment of factors leading to specific behavioral outcomes is quite complicated. For example, temperament may predispose an infant to a basic response set, and its impact may be examined. The model quickly becomes much more involved, however, as the child's reactions are affected by and have an impact on caregivers, necessitating a focus on the transaction rather than on a single set of variables.<sup>25</sup>

Distress in young infants is manifested with observable and measurable behaviors, including crying, flinging body parts randomly in space, or tensing muscles in the body and face. These reactions are essentially instinctive and are relatively primitive in nature.<sup>26</sup> With negative arousal, infants cling to primary caretakers or withdraw from outside activity in an attempt to regulate comfort levels and to maintain a state of equilibrium. Restriction in motor movement activity may be observed as limpness, passivity, lack of locomotor exploration, and tendencies to remain sedentary in a fixed position for extended periods of time.

In contrast, older infants who are actively coping in an attempt to overcome environmental stressors will demonstrate sustained interest in interacting with others, curiosity about attaining physical skills, an ability to be soothed and

comforted with flexibility, and eagerness to manipulate developmental play materials in an attempt to accomplish and master specific tasks.<sup>27</sup> Therefore, medical events can affect the infant's efforts to master the developmental agenda of biobehavioral organization and regulation. It is of concern that these events can disrupt the first critical stage in ego development and psychosocial adaptation, the development of basic trust.<sup>28</sup>

Because the meaning of the infant's world must be inferred from nonverbal behavior, the assessment strategies of infant coping by a dance/movement therapist are very similar to those of other professionals. The unique contributions of the dance/movement therapist are interventions predicated on the notion that alterations in behavioral sets lead to concordant changes in psychological adaptation. The re-creation of certain motor movements influences the infant's perception, level of integration, and awareness of outside events in the environment.

Increasing behavioral organization and regulation may serve as means of facilitating coping with distress. By engaging the infant in developmental movement patterns (homologous, unilateral, or contralateral stretching movements), there is an opportunity to facilitate integration within the body, as well as between the body and the environment. Critical to the process is promoting generalization across settings, accomplished by specific movement activities that enhance the infant's interaction with the physical and social environments.

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### **Case Example: A Newborn with Leukemia**

*Brad was 4 weeks old when he was diagnosed with infant acute leukemia, surviving his twin who died of the same illness. During the initial diagnostic and treatment phase, Brad endured multisystem complications from his disease and treatment that necessitated a 6-week stay in the pediatric intensive care unit (PICU), which included episodic intubation. The severity of Brad's medical condition and the demands of the PICU environment had a significant impact on the usual sensorimotor development of early infancy. Sensory stimulation was quite unnatural, because it involved either bombardment with the array of activities characteristic of a PICU or the restriction of the neonatal isolet and frequent sedation.*

*The goal of therapeutic intervention in this setting is to obtain an optimal match between the intensity of stimulation in the environment and the infant's specific responses. Although Brad's range of observable behaviors and changes in awareness states were restricted, a major premise of dance/movement therapy is to begin with the status quo, whatever it might be. Brad's body was still, his eyes were often closed, his abdomen was quite distended (leading to restrictions in positioning), and intravenous lines further limited his range of activity.*

*Developmental theory suggests that through maturational effects and interactions with the environment, infants move along their developmental pathway.<sup>29</sup> Because of his illness and the medical care environment, Brad was limited in both areas, and, thus, the general*

*aim of dance/movement therapy was to provide him with stimulation targeted at a level to which he could respond. Intervention began with focusing on tactile and auditory sensory stimulation, because motor exploration was not possible. The therapist used her voice in a calm and soothing manner, complementing her gentle stroking and stretching movements across various regions of Brad's body (along the spine, upper/lower connections, and side/side connections).*

*Through repetitive interventions of this nature, it was intended for Brad to experience his body boundaries, sense various connections between regions of his body by developing a sense of his own bodily organization, and experience containment in an environment that alternated between chaotic and restrictive extremes. In addition to addressing the major tasks of early sensorimotor development, this approach provided a consistent sense of familiarity and contact with the therapist, engendering increased recognition and trust.*

*The creativity of a dance/movement therapist may facilitate experiences on subtle levels that may otherwise remain unaddressed. For example, when Brad was on a ventilator, the dance/movement therapist placed a large scarf in one of his hands, which he lightly grasped. Music and voice accompanied the therapist's swaying and swinging dance movements. It was important that stimulation across various channels (therapist's movement, voice, and breath) be integrated and synchronous, facilitating greater assimilation by the infant.*

*These interventions also provided the mother with modalities through which she could interact with her son, which was very important to her. She joined the movement experience, holding another corner of the scarf, and through the sustained wave-like motions, along with the common connection with the scarf, Brad could experience a sense of interaction with others. The interpersonal nature of the movement experience decreased isolation.*

*The structure and intensity of dance/movement therapy interventions changed as a function of Brad's fluctuating medical condition. He was held in various positions, rhythmic patterns were explored, vocalizations and cry were mirrored, and developmental sensory toys were introduced. By broadening this repertoire, there were added opportunities to observe the reciprocal attachment and attunement relationships between Brad and his mother. The appreciation of nonverbal nuances in these interactions yielded a great deal of insight into the mutual responsiveness of this dyad. For example, it was observed that Brad's mother calmly shaped her body around his with a sustained and flowing quality, utilizing her own sensitivity on a body movement level to facilitate secure attachment.*

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The dance/movement therapist begins the therapeutic process with a body-based and developmentally sensitive assessment. This information is used to define the appropriate level of intervention through which body movement structures are used to reintegrate early sensorimotor devel-

opmental experiences. With the onset of medical illness and treatment during early infancy, therapeutic efforts aimed at re-establishing equilibrium in physiologic, emotional, and interpersonal development are significant.

**Early childhood.** During the toddler and preschool years, children are primarily concrete, prelogical thinkers with only the beginning of symbolic functions and abstract mental representations. Command of verbal language is developing, though still quite limited, and communications can be frustrating. Concepts of illness tend to reflect ego-centric and idiosyncratic thought, with causal factors frequently being defined by extrinsic events, and, thus, only very basic statements about illness and treatment are understood.<sup>30</sup> Socioemotionally, young children venture out into the environment to attain autonomy and independence. In addition to interacting with the environment in new ways, the child learns to regulate emotions in response to situational demands. Regulation refers to a diversity of intrinsic and extrinsic processes responsible for monitoring, evaluating, and modifying emotional reactions, especially their intensive and temporal features, to accomplish one's goals.<sup>31,32</sup>

The ability to anticipate critical environmental events that may either elicit or reinforce certain behaviors is central to the development of self-control. There appear to be strong links between language and cognitive development and emotional regulation. With increased stress, aspects of this developmental process may be taxed, leading to variability in coping, more immature behaviors, and inaccessibility to emerging cognitive skills that may mediate affective arousal.<sup>33</sup> The nature of attachment relationships further mediates the impact of such environmental stressors,<sup>34</sup> and parental support may allay anxiety. Therefore, the impact of separations or parental unavailability during acutely distressing events potentially exacerbates negative responses.

A key issue in understanding the psychological adjustment of children with chronic illness is the degree of disruption caused by the condition. Measures, such as "functional status" or "index of burden" have been used to describe these effects.<sup>35</sup> Deviations from normal routines, unfamiliar environments, and restrictions in motor activity can lead to an array of behavioral outcomes ranging from passivity and withdrawal to episodic aggressive impulsivity, restlessness and hyperactivity, and irritability.<sup>24</sup>

Literature on the development of affect helps explain the variability of response in young children. Emotion involves a number of major components: 1) a precipitating event in a context; 2) changes in central and peripheral physiology (arousal) as well as behavioral changes; 3) some cognitive evaluation or label; and 4) potential changes in subjectively experienced feelings.<sup>36</sup> With increasing age, one's ability to differentiate emotions becomes greater, and thus the range of affective reactions expands.<sup>37</sup>

Therapeutic goals focus on helping the young child with a chronic illness modulate affect and adapt to the demands of the situation. Divergence in movement, the capacity to create and perform different fundamental movement patterns, is a cornerstone for more advanced and integrated motor activities and is central to the therapeutic process.<sup>38</sup> Theoretically, there seem to be parallel developmental processes between the increasing differentia-

tion of affect and the relative diversity of movement behaviors.

Children can learn to modulate and control emotions and related behavior by recognizing the extremes and then appreciating gradients along that continuum. In dance/movement therapy, specific body movement structures that address starting and stopping, adjusting the shape of the body within a designated space, and exploring opposite qualities (big/small, fast/slow, and up/down) are introduced. Initially, emotions are typically communicated in the whole body, with little differentiation between body parts or smaller controlled movements. With development and exposure to various situations, the child's experiences become more integrated and familiar on a body level, and subtle gradations can be mastered. Dance/movement therapy provides a context for increased integration among subjective internal states (specific thoughts and feelings), behaviors and body movements, and the demands of the environment.

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### **Case Example: Dance/Movement Therapy Group for Preschoolers**

*A dance/movement group was conducted with three 4-year-old boys with acute lymphoblastic leukemia, over the course of 8 weeks. Young children naturally experiment with ways to move their bodies through space, and the expression of thoughts and feelings often involves global, "whole body" responses, lacking in differentiation and modulation. Although participants varied in their degrees of impulsivity, capacity for self-control, awareness of space, and expressiveness on a movement level, they all benefited from exploring obstacle courses that included attention to balancing, adjusting spatial levels, and broadening locomotion patterns that engendered creative problem solving. Each segment of the obstacle course was included with a specific intent; to elicit certain movement qualities along with the action itself. For example, some children responded to illness and treatment with relatively undifferentiated emotions reflecting frustration and aggression. In the context of the obstacle course, they hit a punching bag with protective gloves and knocked down blocks with a soft ball, both of which used direct spatial pathways and strength as a means of structuring their responses with greater focus and control.*

*This strategy was repeated across various areas of conflict, developing body movement skills that facilitated flexibility and adaptation within the immediate therapeutic experience, and providing tools that enhanced cognitive and affective integration. The dance/movement therapist also used verbal language as part of the movement experience to facilitate further consolidation and generalization of these processes.*

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**School-age children.** During the school-age years, there are substantial advances in cognition, language, and differentiation of affect. The literature on concepts of death, for example, shows that before surgery children have no realistic concept of the causality, irreversibility, or

universality of death and are likely to be confused about the cessation of bodily functions. In contrast, by the end of the elementary school years, the majority of these attribute concepts are mature, abstract, and well defined.<sup>39,40</sup>

This is also a period during which there is a significant differentiation of emotions. A full range of negative emotions, including frustration, various forms of anxiety, disappointment, and sadness, as well as diverse positive emotions, are now exhibited. Similarly, there is an emerging integrated sense of self as an entity independent of the environment that maintains a degree of constancy over space and time. Included is the concept of body image, the child's awareness of and reactions to aspects of appearance, physical prowess, and bodily functioning.<sup>41</sup> During these years, peer relationships become increasingly sophisticated and, by preadolescence, the peer group becomes central to the progression of socioemotional development.

The implications of these developmental processes are substantial for children with chronic illness. With greater insight comes a broader array of affective responses and individuality in the nature of those responses. For example, the focus of anxiety reactions shifts from separation to concerns regarding potentially distressing experiences, awareness of bodily changes, demands of symptom management, and the threat of death. None of these issues are of realistic concern to younger children.

Especially in light of the noticeable physical changes associated with cancer and its treatment, comfortable interactions with peers become a challenge. Rejection by those who do not have cancer can lead to feelings of self-consciousness, fear, and withdrawal.<sup>42</sup> In contrast, social problem solving, the exchange of information about the disease and its treatment, and specific coping strategies can minimize isolation and enhance social adjustment.<sup>43</sup>

Dance/movement therapy is well suited to school-age children for a number of reasons. First, it provides concrete, interactive means by which more abstract concepts may be addressed. Second, dance/movement therapy is an inherently social activity, thereby automatically providing a forum for dealing with many interpersonal concerns. Third, exploring the nonverbal expression of burgeoning emotions adds increased insights and awareness for the child.

### **Case Example: A School-Age Child Undergoing Stem Cell Transplant**

*Greg turned 7 years old during a cord blood stem cell transplant, after extensive treatment for acute myelogenous leukemia (AML). For reasons not clearly defined, he developed hydrocephalus, with concomitant neurocognitive effects. This included excessive response latencies to various stimuli and a constriction and slowing of most motor and speech behaviors. Although Greg did not evidence overt awareness of these changes, he struggled with finding means of identifying and communicating his feelings and ideas.*

*Initially, a therapeutic relationship was established by mirroring Greg's postures, efforts, shapes, movement dynamics, spatial preferences, emotional tone, and subtleties of breath.<sup>44</sup> The dance/movement therapist empathically adopted similar qualities, which facilitated*

*opportunities for acceptance and rapport, forming the building blocks for subsequent therapeutic endeavors. Early on, Greg displayed a great deal of restriction and passivity in his movement and gestures, with only minimal changes in his body shape, breathing pattern, and dynamics. Once eye contact and "kinesthetic empathy" were established, the therapist introduced slight changes to promote greater awareness and sense of self in the environment.*

*By suggesting that Greg gently touch various parts of his own body, he used sequencing to regain a sense of connection, as well as increased body awareness, boundaries, and stimulation. The use of movement props helped Greg clarify unfocused thoughts and feelings resulting from limitations in his expressive and receptive range of communication.*

*Although children of this age lack the capacity to comprehend difficult issues on an abstract level, they are potentially adept at using analogous concrete representations or metaphor to resolve conflicts.*

*For example, a scarf represented a "magic carpet," and a stretch band became "the reigns of a horse" in the service of bringing abstract themes to life in a more concrete manner. In this way, Greg was able to transcend his usual bland affect and withdrawal to relate to movement experiences that involved fantasy, spontaneity, and interaction. Movement interventions were integrated with verbal associations to the context and were targeted to promote awareness and communication.*

**Adolescence.** With the emergence of formal operational thought, adolescents may conceptualize concrete reality as a subset of a universe of possibilities. Abstract reasoning, generation and testing of hypotheses, and realistic projection into the future all help set the stage for the evolution of an integrated sense of self. The rapid growth and physical changes associated with puberty highlight issues of physical appearance and sexuality, which also need to be integrated into the self-concept. Body image, a construct related to both actual body experience and related interpretations, becomes a major focus.<sup>45</sup>

Socioemotionally, the adolescent is moving toward independence and autonomy. Parental influence wanes, and the peer group becomes central as an alternative system for support and normative values. Involvement with school and extracurricular activities provides avenues through which friendships and romantic relationships may be explored. The establishment of a personal belief system is investigated and may be influenced by symbolism in art forms and religion.<sup>46</sup>

Conflicts around the need for control are evident as adolescents face important relationship, academic, and vocational decisions. There can be a sense of omnipotence as adolescents take risks and feel indestructible. Teenagers test the limits of authority, and standards of behavioral compliance fluctuate. All of this must be viewed in the context, however, of a young person who has not yet truly achieved self-sufficiency and independence from parents or other stable influences.

Formal thought processes enable one to think about quality-of-life issues and the possibility of premature death. Thus, many adolescents find it imperative to be apprised of all aspects related to their care and to be included in the decision-making process. Despite these insights, however, it is known that nonadherence to therapeutic regimens for cancer treatment in adolescents is more the norm than the exception.<sup>47</sup> Data indicate that each adolescent performs a personal "cost-benefit analysis" regarding adherence, and that often the conclusion is maladaptive in the long run.<sup>48</sup>

Chronic illness has other major implications for adolescents. Loss or disruption of normal contact with peers, such as through school absenteeism or unavailability for other extracurricular activities, may lead to alienation and isolation. Falling behind in schoolwork can induce feelings of inadequacy and being overwhelmed. There is also a conflict between wanting special considerations to achieve versus wanting to be treated normally.<sup>23</sup>

Delayed physical development, disability, or disfigurement associated with the illness and its treatment make the already self-conscious adolescent even more sensitive to concerns about body image.<sup>23</sup> Body experiences related to chronic illness vary in terms of diagnostic and prognostic considerations, prior life experiences, and established coping mechanisms. Body image, axes of comfort (sensory input), competence (representation, evaluation, and affective response to functional ability), appearance, and predictability may be affected by illness processes or sequelae of treatment. In addition to the experience of physical discomfort, competence is questioned, self-image is viewed negatively, and control wavers as predictability diminishes. Even with remissions and lessening of symptoms, concerns about the permanence of positive change persist.<sup>40</sup>

The dance/movement therapist must negotiate a delicate balance between adolescents' drive for autonomy versus dependence, which is reflected by a constant shifting in levels of directness, structure, and confrontation in the therapeutic process. Communicating feelings on a body level may be quite threatening and, thus, a supportive atmosphere must be created before pursuing more personal thoughts and feelings.

For the adolescent with cancer, body image attitudes may become negative, instilling even greater loss, passivity, and withdrawal. Dance/movement therapy interventions that focus on mobilization, gross motor skills, and emotional self-expression aim to consolidate disease-related changes in the body and subsequent function. Movement and corresponding verbalizations heighten sensation and kinesthesia, facilitating an integrated body image that is more dynamic, rather than static.<sup>49</sup> These movement experiences transcend verbal concepts and facilitate more comprehensive recognition and cohesion of body image constructs.

Peer group influences on the psychological adjustment of adolescents with cancer are salient, making group formats ideal for dance/movement therapy interventions. Effects of universality, the perception that others share what was deemed to be a unique plight, as well as modeling are quite powerful in this setting.<sup>50</sup> When complimented by physical interactions, such as dance improvisation or athletic movement activities, peers can communicate and re-

ceive feedback on many facets of adolescent development, including those most closely associated with illness and its treatment.

Each patient comes to the group with a unique set of needs, and, therefore, the group process takes on different purposes at various times. For example, a patient on active treatment may use the group as a surrogate peer network in which new modes of interaction that incorporate changes in self as a function of the illness may be tried. In comparison, the group may provide a forum for adolescents off treatment to experiment with different roles and with the transition from "cancer patient" to "normal adolescent."

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### **Case Example: The Braves: An Adolescent Therapeutic Support Group**

*The adolescent therapeutic support group is composed of teenagers with cancer between the ages of 15 and 19 years and includes those who are newly diagnosed and adolescents who have been off treatment for several years. The group meets on a weekly basis throughout the year and functions as a steady and cohesive peer network.*

*Even though the structure of the group has fluctuated over time, body image has been a poignant and repetitive theme that has been addressed through dance/movement therapy. Physical disfigurement and limitation, weakness, weight changes, and restrictions in dynamic range have altered the teenagers' "relationships" with their own bodies, often resulting in diminished self-concepts. Further questioning of one's sexuality and prowess has also been expressed.*

*These themes manifest in a regular "movement game" of indoor touch football. Teams were divided by gender, and an ongoing "battle of the sexes" was established. Body movement coordination, athletic skills, energy level, teamwork, interpersonal distancing, and competition address underlying concerns of mastery, bodily competence, self-esteem, and status in the group. Various adjustments have been made in response to each person's capabilities, which reflected empathy, but also raised difficulties. Group members strive to display their skills in an effort to achieve normalcy in the face of repeated disappointment, loss, and changes in their bodies. Body image concerns intimately affect how teens feel about themselves, and, through active movement interactions, they experience these concepts in vivo, rather than as remote concepts. With this modality, difficult abstract issues are identified and explored, immediate feedback is available, and problem-solving skills are enhanced, all crucial ingredients to successful therapeutic outcomes in this age group.<sup>51</sup>*

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### **Clinical Implications**

During the past several years, creative arts therapy programs have become more integrated in healthcare settings.<sup>52</sup> It remains a challenge, however, to incorporate this clinical material into comprehensive treatment plans.

Dance/movement therapists offer a perspective that encompasses key elements of development, coping, and adaptation by using an approach that goes beyond verbal concepts, thereby adding an important dimension to the holistic care of cancer patients.

Although anecdotal summaries provide support for the value of dance/movement therapy interventions, it is recognized that this discipline must be held to the same standards of validation for treatment efficacy as any other. We know of no published empirical studies evaluating treatment outcomes of dance/movement therapy to promote psychological adjustment in children with cancer or similar populations. Research is in progress at our center, but preliminary data are not yet available.

Clinically, there is an expressed desire by professionals and patients for integration of body, mind, and spirit in the care of individuals with cancer.<sup>53</sup> Toward that end, comprehensive cancer centers have assembled interdisciplinary teams that include psychosocial professionals, and contributions to the field of psycho-oncology continue to expand. At its very core, dance/movement therapy emphasizes the holism of mind and body, thereby providing a new avenue for exploring the complicated inter-relationship of factors involved in coping with cancer.

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