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A Clinical Guide to the Psychosocial Issues Related to Pediatric Traumatic Brain Injuries

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A CLINICAL GUIDE TO THE PSYCHOSOCIAL ISSUES RELATED TO
PEDIATRIC TRAUMATIC BRAIN INJURIES

by

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This Scholarly Project Paper, submitted by Mandy Christen, MOTS and Becky Hansmeier, MOTS in partial fulfillment of the requirement for the Degree of Master's of Occupational Therapy from the University of North Dakota, has been read by the Faculty Advisor under whom the work has been done and is hereby approved.

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ABSTRACT

Children and adolescents who sustain a traumatic brain injury (TBI) demonstrate changes in personality, such as mood swings, irritability, impulsivity, argumentative behaviors, decreased frustration tolerance, and difficulty cooperating (Prigatano & Gray, 2007; Prigatano & Gray, 2008; Souza, Braga, Filho, & Dellatolas, 2007). These clients also have an increased susceptibility to psychiatric disorders, including mood and anxiety disorders, later in the lifespan as physical and cognitive demands increase (Koponen et al., 2002; Luis & Mittenberg, 2002; Viguiet, Dellatolas, Gasquet, Martin, & Choquet, 2001). Despite these substantial risk factors, a significant number of children and adolescents continue to have unrecognized or unmet behavioral, emotional, and social needs as a result of inadequate mental health services (Greenspan & MacKenzie, 2000; Hawley, 2004; Slomine, McCarthy, Ding, MacKenzie, Jaffe, Aitken, et al., 2006; Souza et al., 2007). Therefore, the purpose of this scholarly project was the development of a clinical guide for occupational therapy (OT) practitioners in pediatric rehabilitation settings that provides a framework to address psychosocial issues experienced by pediatric clients with TBIs.

An extensive review of developmental, educational, medical, psychological, occupational therapy, and rehabilitation literature was conducted to examine the psychosocial symptoms associated with pediatric TBI. Subsequently, the impact depression and mood disorders, personality and cognitive-behavioral changes, impaired

social skills, and decreased self-esteem/self-efficacy have on occupational functioning was considered. The need for OT programs to address psychosocial impairments with pediatric clients who have sustained a TBI was supported by findings that there is a high unmet need for services that address mental health issues following a head injury (Greenspan & MacKenzie, 2000; Hawley, 2004).

As a result of the literature findings, a clinical guide for OT practitioners was created to help practitioners incorporate psychosocial issues into the evaluation, intervention planning, and intervention implementation processes. The clinical guide encompasses information regarding relevant background information on TBI, psychosocial symptoms, OT practitioner's holistic role in addressing psychosocial symptoms, pediatric psychosocial assessments, sample goals, and interventions that address psychosocial deficits. The *OT Practice Framework*, 2nd ed. (2008), Occupational Adaptation frame of reference, and the adult learning theory were used to help structure the clinical guide in a manner that is meant to assist OT practitioners through the clinical reasoning process in providing holistic, client-centered care to the pediatric client and his or her family. Reproducible handouts, including educational materials for family members and school professionals, were also provided in a workbook format.

CHAPTER I

INTRODUCTION

Each year, pediatric traumatic brain injury (TBI) accounts for approximately 37,000 hospitalizations and 2,685 deaths (Langlois, Rutland-Brown, & Thomas, 2006). Of the 1.4 million Americans who have a reported TBI each year, 475,000 are sustained by infants, children, and adolescents between 0 and 14 years of age. Of these 475,000 pediatric clients, a staggering 91.5% of these individuals report to the emergency department (ED). “Very young children ages 0 to 4 years had the highest rate of TBI-related ED visits (1,035.0 per 100,000 population), followed by older adolescents ages 15 to 19 years (661.1 per 100,000)” (Langlois et al., 2006, p. 8). Adolescents 15 to 19 years of age also had the highest rate of hospitalization (129.1 per 100,000) resulting in an average annual incidence of nearly 25,000 hospitalizations for this age group (Langlois et al., 2004).

This information was congruent with results obtained by McKinlay et al. (2008) as the highest incidence of TBI in their longitudinal sample was adolescents 15 to 20 years of age from Christchurch, New Zealand. These statistics further coincide with the fact that children and older adolescents are two of the three most vulnerable patient populations in regards to the occurrence of TBI (Langlois et al., 2004). These statistics support the need for healthcare professionals, including occupational therapy (OT) practitioners, to have a strong understanding of the physical, cognitive, and psychosocial

implications of TBIs in children and adolescents due to the high incidence of occurrence.

The United States government recognized the importance of developing more specific treatment guidelines for healthcare professionals when the Senate and House passed The Traumatic Brain Injury Act of 2008 (H. R. 1418, 110th Cong. §4, 2008). The authors of the Senate/House (2008) cited the following as future national research priorities:

(3) Identifying interventions and therapies that can prevent or remediate the development of secondary neurologic conditions related to traumatic brain injury. (4) Developing practice guidelines for the rehabilitation of traumatic brain injury at such time as appropriate scientific research becomes available (H. R. 1418, 110th Cong. §4, 2008).

The need for well-established guidelines for treating individuals comes at a critical time when fatality rates are decreasing for clients with moderate to severe TBIs (Bowman, Bird, Aitken, & Tilford, 2008). This thereby indicates an increased need for rehabilitation services during the recovery process as clients deal with the primary and secondary effects of the injury.

Although not always directly recognized, the secondary effects of a pediatric TBI often include changes in behavioral, emotional, and social functioning that significantly impact occupational performance. Children and adolescents who sustain a TBI frequently demonstrate changes in personality, such as mood swings, irritability, impulsivity, argumentative behaviors, decreased frustration tolerance, and difficulty cooperating (Prigatano & Gray, 2007; Prigatano & Gray, 2008; Souza, Braga, Filho, & Dellatolas, 2007). These clients also have an increased susceptibility to psychiatric disorders,

including mood and anxiety disorders, later in the lifespan as physical and cognitive demands increase (Koponen et al., 2002; Luis & Mittenberg, 2002; Viguier, Dellatolas, Gasquet, Martin, & Choquet, 2001). Despite these substantial risk factors, a significant number of children and adolescents continue to have unrecognized or unmet behavioral, emotional, and social needs as a result of inadequate mental health services (Greenspan & MacKenzie, 2000; Hawley, 2004; Slomine et al., 2006; Souza et al., 2007).

Therefore, the purpose of this scholarly project was the development of a clinical guide for occupational therapy (OT) practitioners that provides a framework to address the psychosocial issues experienced by pediatric clients with TBIs. The guide is intended to be utilized by OT practitioners working in inpatient and outpatient physical disabilities settings who provide therapeutic services to pediatric clients with TBIs between the ages of 5 and 18 years of age. The guide is structured in a similar format to the therapeutic process outlined in the *Occupational Therapy Practice Framework*, 2nd ed. (2008) in order to coincide with the OT practitioner's clinical reasoning process. The primary sections of the clinical guide include information related to the following: background information on pediatric TBIs; psychosocial issues experienced by children and adolescents following a TBI; the OT practitioner's role in addressing psychosocial symptoms; OT assessment tools that address quality-of-life and well-being, behavioral management, mood regulation, and stress management; information relevant to writing OT psychosocial goals; and OT interventions to address behavior management, social skills, self-esteem, and emotional well-being. Also, additional resources are provided at the end of the clinical guide to assist OT practitioners to be self-directed in the learning process.

In this clinical guide, reproducible handouts are included to serve as an interactive form of learning, which allows for increased application of the presented concepts and strategies. In addition to documentation charts and intervention worksheets and activities, reproducible educational handouts are available for family members and school system professionals to increase the continuity of care in addressing the psychosocial issues of a pediatric TBI. The reproducible handouts have also been created into a workbook to allow for increased ease of implementation of the intervention activities.

To clearly understand the purpose of this clinical guide, the structure and content of the guide was influenced by two theoretical bases of knowledge, the Occupational Adaptation (OA) frame of reference and the adult learning theory. The OA frame of reference was selected to address the unique needs of the children and adolescents who will be the direct recipients of OT services. The adult learning theory was used to develop the clinical guide in a manner that is conducive to adult learners' needs.

The OA frame of reference focuses on the interaction between the individual's desire for mastery based on internal role expectations and the demand for mastery that the external environment exerts on the individual (Schkade & Schultz, 2003). This interaction results in a demand for mastery, which is the "interactive press that spurs the demand for the client to produce an adaptive response" (Schkade & Schultz, 2003, p. 187). The demand for mastery is a direct result of the individual's work, play/leisure, and self-care occupational environments where the individual carries out his/her meaningful occupations (Schkade & Schultz, 2003). Each of these environments is composed of a unique set of physical, social, and cultural subsystems that influence the overall contextual environment (Schkade & Schultz, 2003). The OT practitioner views the client

from a holistic perspective, in which each client is considered to have a unique set of interdependent sensorimotor, cognitive, and psychosocial skills (Schkade & Schultz, 2003).

The OA frame of reference allows the OT practitioner to utilize two approaches during the intervention implementation process. “Occupational readiness consists of interventions that are designed to address deficits in the Person systems (sensorimotor, cognitive, or psychosocial) that are interfering with performance in the selected occupational role” (Schkade & Schultz, 2003, p. 214). The second approach, occupational activity, allows the pediatric client to be actively involved in a meaningful occupation-based activity that results in a tangible or intangible end-product (Schkade & Schultz, 2003). While both methods should be integrated into the intervention planning and intervention implementation process, the client should primarily be engaged in meaningful occupational activities. This will not only result in increased relative mastery, but also greater generalization of skills to novel situations (Schkade & Schultz, 2003).

Achievement of relative mastery is the primary goal of this theoretical basis. This is a direct result of the adaptation process, which is “the capability an individual possesses to perceive the need for change, modification, or refinement (adaptation) of an occupational response in order to respond with positive relative mastery” (Schkade & Schultz, 2003, p. 185). As the individual is confronted with occupational challenges throughout the lifespan, the adaptation process allows the individual to evaluate and adapt his/her occupational performance in regards to efficiency, effectiveness, and self/societal satisfaction (Schkade & Schultz, 2003). These three properties of relative mastery are evaluated based on internal role expectations, as well as external expectations

from the occupational environment. This is particularly in regards to the demands exerted by the physical, social, and cultural subsystems.

Following a TBI, pediatric clients will experience a variety of occupational challenges in meaningful, daily activities. In congruence with the OA frame of reference, each pediatric client with a TBI will express a desire for mastery to overcome these challenges (Schkade & Schultz, 2003). If the child or adolescent does not demonstrate this motivation, the OT practitioner is encouraged to consult with the pediatric client's family members. The OT practitioner should not attribute decreased motivation to personal characteristics, but rather must consider the impact the TBI had on the pediatric client's sensorimotor, cognitive, and psychosocial systems. The press to overcome occupational challenges following a pediatric TBI is also a direct result of the demands of the occupational environment. For children and adolescents, play/leisure and self-care environments are particularly salient.

The clinical guide is structured in a manner to address both occupational readiness skills and engagement in meaningful, occupational activities. While the sensorimotor, cognitive, and psychosocial systems are interrelated, the clinical guide will focus on the psychosocial system during the intervention process. The OT practitioner is provided with assessment tools and intervention ideas for the evaluation and treatment of occupational readiness skills, including behavior management, emotional regulation, stress management, and social skills. While these skills are initially addressed, the OT practitioner is encouraged to primarily focus on meaningful occupational activities. As a result, the adaptation process will be facilitated as pediatric clients will find these interventions to be more meaningful. This is of particular importance, as the clinical

guide was structured in a manner to encourage client-centered practice. Rather than being a strict set of guidelines in a protocol-type format, the clinical guide provides the OT practitioner with the freedom to adapt suggested intervention strategies and activities to meet the unique needs of each pediatric client. This is in congruence with the principles of the frame of reference as “OA is not a collection of techniques nor is it technique specific” (Schkade & Schultz, 2003, p. 209).

The ultimate goal for use of this clinical guide is that the child or adolescent will achieve relative mastery in his/her daily occupations. Through the utilization of this clinical guide by OT practitioners, the therapeutic process will allow the pediatric client to adapt and evaluate his/her performance in relation to occupational challenges. This is of particular importance as psychosocial issues as a result of a TBI can be life-long. Therefore, it is critical for the pediatric client to develop insight and awareness into his/her psychosocial abilities during daily occupational activities. Realistically, life-long therapeutic services are not feasible, so therefore the pediatric client who has sustained a TBI must be his/her own agent of change (Schkade & Schultz, 2003). By gaining relative mastery, the pediatric client will have the ability to evaluate the efficiency, effectiveness, and satisfaction with occupational performance. This insight and increased self-awareness will allow pediatric clients to continually adapt to occupational challenges that are present across the lifespan.

The adult learning theory was utilized as a second theoretical base of knowledge to structure the clinical guide in order to meet the unique learning needs of OT practitioners who will be utilizing the guide. During the guide’s development, it was recognized that each OT practitioner will have a unique set of learning needs and

preferences when organizing and implementing the presented information. Therefore, the guide was structured in a manner that would be conducive to a variety of adult learner needs, in congruence with the five basic assumptions of the theory. The five basic assumptions of the adult learning theory are discussed here.

First, adult-learners benefit from a facilitative teaching approach as adults have the ability to be self-directive in the learning process (Merriam, 2001). Based on this assumption, the guide was structured in a way that allows the OT practitioner to ascertain the information most relevant to their particular pediatric client. This was imperative as adult learners are intrinsically motivated to learn information that is particularly meaningful to their current needs (Merriam, 2001). The self-directed learning approach allows the OT practitioner to assert independence and apply individual preferences to the learning process by selecting the timeframe and context most conducive to learning.

Second, the adult learner has a plethora of previous learning experiences that exert a large influence on the current learning process (Merriam, 2001). In accordance with the OA frame of reference, the OT practitioner is encouraged to synthesize the information and strategies presented in the guide with previous clinical experiences when working with pediatric clients with a TBI. Rather than viewing the clinical guide as a strict set of guidelines which must be followed in a protocol-type manner, the OT practitioner has the freedom to adapt strategies and activities to meet the individual needs of each pediatric client.

The final two assumptions of the adult learning theory highlight the importance of problem-based learning that specifically addresses the adult learners newly acquired needs (Merriam, 2001). In consideration of these assumptions, the clinical guide contains

an interactive component, which allows the OT practitioner to immediately apply client-specific information to their practice through handouts and worksheets located throughout the guide. Integrating background information found at the beginning of the clinical guide with previous clinical experience, the OT practitioner has the ability to select meaningful assessments and interventions that have direct application to the occupational performance needs of clients.

The following chapters of this book are organized in a coherent manner that guides the reader through the clinical guide. Chapter II provides an overview of the pertinent findings of scholarly literature, particularly in relation to psychosocial symptoms experienced by pediatric clients following a TBI, the impact these symptoms have on occupational performance, and effective OT intervention approaches to address this issues. The activities and methodology utilized to conduct the literature review and create the clinical guide is detailed in Chapter III. The product is presented in Chapter IV to provide the reader with a clear and detailed understanding of the clinical guide's contents. The summary in Chapter V outlines the clinical guide's overall strengths and limitations. Particular attention is given to implementation strategies for use of the clinical guide in a physical disabilities rehabilitation setting, along with future recommendations for improvement.

CHAPTER II

REVIEW OF THE LITERATURE

Traumatic brain injury (TBI) is a leading cause of disability in children and adolescents each year. In addition to physical, cognitive, and neurological deficits that occur in children and adolescents following a TBI, various psychosocial issues also influence occupational performance. These psychosocial issues can range from behavioral issues and difficulties with social interactions to decreased self-esteem and emotional well-being. In order for occupational therapy (OT) practitioners to provide holistic, client-centered services that address psychosocial issues, it is important for the practitioner to have a thorough understanding of the prevalence, etiology, and utilization of services related to pediatric TBIs. This background knowledge will first be explored, followed by an overview of the possible psychosocial symptoms post-TBI. Special consideration will be given to the impact that these psychosocial implications have on meaningful occupational performance. Finally, the OT practitioner's role in the evaluation, intervention implementation, and intervention planning process will be examined in light of recent intervention strategies from a variety of medical and social science disciplines.

Background Knowledge

Prevalence

Nearly half a million infants, children, and adolescents acquire the physical, cognitive, and psychosocial effects of TBI each year (Langlois, Rutland-Brown, & Thomas, 2006). However, the exact prevalence of pediatric TBI is difficult to ascertain as these figures do not account for the high percentage of individuals who never receive medical attention for mild TBIs. And in many cases, those who receive care from a general practitioner are then sent home without any follow-up care. Lack of longitudinal research studies to track individuals who sustain multiple TBIs further hinders researchers' ability to fully account for the true prevalence of TBI (McKinlay et al., 2008).

Consistent with adult and geriatric client populations, male youths are more likely than their female peers to sustain a TBI (Langlois et al., 2006; McKinlay et al., 2008). Although the incidence of pediatric TBI has decreased between 1991 and 2005 for both sexes, males' rate of sustaining a head injury continues to remain statistically high across all age groups (Bowman, Bird, Aitken, & Tilford, 2008). When examining broader national statistics for both males and females, males zero to four years of age have the highest incidence of TBI-related hospitalizations, emergency department (ED) visits, and deaths (Langlois et al., 2004). Rates for females in this same age group were also statistically high, as were incidence rates for older adolescent females and males between the ages of 15 and 19 (Langlois et al., 2006).

A recent study conducted by Bowman et al. (2008) indicated an overall decrease in the prevalence of pediatric TBI between 1991 and 2005. This was particularly true for

clients sustaining mild TBIs, while incidence rates for moderate to severe nonfatal TBIs remained relatively consistent with one exception (Bowman et al., 2008). The authors reported a 16.7% increase in hospitalizations rates in 15 to 19 year old adolescent females sustaining moderate to severe TBIs from a large longitudinal sample from the United States Nationwide Inpatient Sample database (Bowman et al., 2008). The authors also reported a reduction in fatality rates for pediatric TBI between 1991 and 2005, predominately in cases classified as moderate to severe (Bowman et al., 2008).

Etiology

Even though motor vehicle accidents (MVAs) and traffic-related incidents account for the primary cause of hospitalization among the general public, falls remain the leading cause of TBI, particularly among children zero to four years of age as 594.2 per 100,000 sustain a TBI-related fall each year (Langlois et al., 2006). McKinlay et al. (2008) concurred with the finding that falls are a leading cause of injury for children under the age of 15. Adolescents between the ages of 15 and 19 years of age have the highest occurrence of MVA and traffic-related TBIs (273.1 per 100,000), as well as assault-related TBIs (125.9 per 100,000) (Langlois et al., 2006; McKinlay et al., 2008). In particular, traffic-related hospitalizations as a result of motorcycle accidents are on the rise for this adolescent age group, as are other traffic-related incidents with individuals 5 to 19 years of age. Overall, when examining the etiology of pediatric TBI in children and adolescents 0 to 14 years of age, falls accounted for 39% of injury, and MVAs and traffic-related incidents can be attributed to 11% of cases. Four percent of cases are due to assaults, another 5% have unknown causes, and the remaining 41% of cases have other causes (Langlois et al., 2006).

Predisposed Risk Factors

While all children and adolescents are at a higher risk for sustaining a TBI than some other age populations, certain risk factors predispose some children and adolescents to sustaining a TBI. Slomine et al. (2006) indicated that pediatric clients with pre-existing psychosocial deficits are at a significantly greater risk for having unmet socio-emotional, physical, and cognitive needs three months following a TBI compared to children without prior psychosocial symptoms. This may be due to both the fact that these children are predisposed to having increased difficulties, as well as parent's heightened awareness of their child's socio-emotional, physical, and cognitive needs. This may result in increased reporting of unmet needs in comparison to parents of children without pre-existing psychiatric conditions (Slomine et al., 2006). Individuals with pre-existing behavioral problems were also found to have an increased susceptibility to neurological effects after a TBI which may be due to an inability to cope with or adapt to the change in abilities and his or her drive to perform daily activities (Schwartz et al., 2003).

Beyond internal factors to the pediatric patient, external and environmental causes also play a role in both risk factors and needs following a TBI. Family functioning and insurance status have been correlated with unmet and unrecognized healthcare needs up to one year following the head injury (Slomine et al., 2006). Research completed by Schwartz et al. (2003) concluded that poor family functioning, increased parent anguish, and negative family outcomes were typical of children with increased behavioral issues following a pediatric TBI. Children from families of greater socioeconomic disadvantage showed an increase in behavioral issues and depressive symptoms following a TBI (Kirkwood et al., 2000; Schwartz et al., 2003). These findings were congruent with those

found by Hawley (2004) as the relationship between behavioral problems and social deprivation were positively correlated for pediatric TBI clients. A thorough understanding of these demographic factors was cited as crucial knowledge to aid healthcare professionals in identifying the current and future needs of the pediatric patient that may otherwise go unmet (Slomine et al., 2006).

Utilization of Healthcare Services

While pediatric clients with severe TBIs were more likely to be receiving healthcare services in all domains of needs compared to clients with milder cases of head injury, nearly 20% of the sample population in the Slomine et al. (2006) study still had unmet needs, and an additional 10% had unrecognized healthcare needs. Greenspan and MacKenzie (2000) reported that this is of particular concern during the rehabilitation process as healthcare professionals become so focused on the acute needs of the patient in order to ensure survival that subtle deficits later in the recovery process go unnoticed.

Specifically in regards to OT, Greenspan and MacKenzie (2000) cited that only 13% of children 5 to 15 years of age in a total sample of 95 children received OT services. Furthermore, caregivers reported the lowest rate of unmet needs in relation to physical and occupational therapy. And, when considering only the proportion that actually needed services to begin with, the numbers were still low at 23% for unmet OT needs (Greenspan & MacKenzie, 2000).

It is important to note that the severity of injury was statistically correlated with the utilization of these rehabilitation services and social services. As severity increased, the need for services increased as well. In contrast, though, those with less severe cases of TBI had the greatest unmet needs for rehabilitation and social services. These findings

suggest that increased screening and evaluation processes are needed to identify children and adolescents at risk for subtle deficits in psychosocial, physical, and cognitive functioning. Further, a greater need for follow-up care is needed to identify future needs, especially with children and adolescents who have sustained a mild head injury (Greenspan & Mackenzie, 2000).

Caregivers reported that lack of recommendations from doctors or school providers, as well as increasing healthcare costs, as reasons for these needs going unmet or unrecognized (Slomine et al., 2006). Caregivers in Greenspan and MacKenzie's (2000) study also reported that lack of doctor referral for physical or occupational therapy, along with the perception that the child would recover on his or her own and lack of knowledge regarding potential services, resulted in their child's or adolescent's needs going unmet. Based on caregivers' reports, even though children have met needs several months following the TBI, needs may arise later in the recovery up to a year afterwards. And many times children with unmet or unrecognized needs at three months post recovery continue to have the same needs months later (Slomine et al., 2006). These needs can be difficult to identify, especially if the client is not receiving follow-up services or the parents are not educated in risk factors to identify.

DiScala et al. (1997, as cited in Cronin, 2001) reported that the majority of children with TBI never receive referrals to community-based support services, and over two-thirds of the sample population in the study at hand never received outpatient rehabilitation services upon returning home. Luis and Mittenberg's (2002) study coincided with these findings as the authors reported that many times the pediatric client and his or her family do not receive adequate discharge supports as education and follow-

up care is limited. This is especially true in relation to education regarding potential psychosocial variables that may come into play after the child or adolescent has returned to his or her home environment.

Psychological Services

The issue of healthcare utilization has been particularly salient in regards to psychological services. Hawley (2004) reported that in a sample of 67 school-aged children from the United Kingdom, only 8.96% of school-aged children had received a psychological assessment, despite the fact that a significant majority of the children were demonstrating behavioral problems that were affecting academic performance. Further, only one child was currently receiving psychiatric services and another had previously participated in an educational psychology assessment (Hawley, 2004).

Greenspan and MacKenzie (2000) also noted that in a sample of 95 children and adolescents 5 to 15 years of age, only 15% had received mental health services. The entirety of the caregivers in the sample reported the highest unmet need related to their child or adolescent's mental health needs (22%). When further breaking down the sample to only participants who actually needed services, unmet mental health needs remained increasingly high at 60%. This comes in light of the fact that 40% of children were identified as having statistically high behavioral scores when screened at a one-year follow-up. However, they were never considered as appropriate recipients of psychological or mental health services (Greenspan & MacKenzie, 2000).

These quantitative findings have been substantiated in recent literature with qualitative reports of long-term psychosocial deficits following a TBI as a result of inadequate mental health services. In a case study by Brenner et al., (2007), one

individual struggled with psychosocial deficits, including anxiety and depression, for 50 years post injury before receiving appropriate mental health services. This individual case highlights the importance of including psychosocial services in the evaluation and intervention process.

Healthcare Implications and Guidelines

Despite the fact that a high percentage of pediatric clients continue to have unmet or unrecognized needs, a majority of clients with physical deficits do receive referrals for therapy services, including OT (Cronin, 2001). However, psychosocial symptoms, such as depression, mood swings, and behavioral issues, may be less apparent and not appear immediately following the injury. Therefore, these issues may not receive the appropriate medical and therapeutic attention necessary to ensure independence in preferred occupational roles. Rehabilitation following a TBI may appear complete when physical deficits have been remediated. However, months to year post-injury, psychosocial challenges may appear when returning to daily occupations and roles (Brenner et al., 2007). In addition, as the demands on a child or adolescent increase throughout his or her life, psychosocial deficits may become more apparent. Jonsson, Horneman, and Emanuelson's (2004) research supported this issue as three of eight sample participants, who on average sustained a TBI during their early adolescent years, went directly from a school environment to no employment. This may be correlated to the fact that increased cognitive and psychosocial demands are placed on the individual as time goes on. Hence, these findings suggest that psychosocial symptoms can have life-long implications on occupational performance. As a result, additional supports and services may be required to ensure success in relation to specific performance skills (Donders & Warschausky,

2007). However, very few children and adolescents receive rehabilitation for an extended period of time after the injury. Donders and Warschausky (2007) concluded that children with TBIs would benefit from long-term rehabilitation as children progress developmentally and social situations become more difficult.

In order to advocate for rehabilitation for a longer period of time, increased research is needed to substantiate this need. In the healthcare community, a number of different disciplines have ensured a broad range of evidence-based research regarding the long-term implications of a TBI. However, results from research studies conducted with samples of adult populations should be applied cautiously to pediatric populations. This is due to the fact that a TBI that occurs during development can disrupt the process of acquiring knowledge and skills, including psychosocial abilities, which allow an individual to gain higher-level abilities later in the lifespan (Brenner et al., 2007). This information is substantiated by the findings of Wells, Minnes, and Phillips (2009) who found that the younger a child is when the TBI is sustained, the greater the impairment in social participation. As a result, the symptoms and ensuing needs of each patient population has the potential to differ, indicating a greater need for differentiation in guidelines for providing client-centered services to children and adolescents compared to adults.

Psychosocial Symptoms

Although physical symptoms are seen and treated immediately in children and adolescents with TBIs, psychosocial symptoms such as depression, mood swings, behavioral changes, low self-esteem, and maladaptive social skills are frequently overlooked in treatment initially following the injury. Failure to recognize and meet these

psychosocial needs can result in life-long implications. Research completed by Prigatano and Gray (2008) concluded that no child with a moderate to severe TBI was judged to have made a complete recovery from his or her injury, whether physically or emotionally. This finding is evident in a case study of a 56 year old man, who sustained a TBI at the age of five. The individual reported dealing with psychosocial challenges throughout his life, including anxiety and depression (Brenner et al., 2007). Similar to this individual, children and adolescents may experience feelings of hopelessness, sadness, and depression following a TBI as they begin to realize the implications of their injury on occupational performance.

Mood Disorders

Luis and Mittenberg (2002) reported that pediatric clients who experience either a moderate or severe TBI are more likely than their peers with mild TBI or orthopedic injuries to be diagnosed with a mood or anxiety disorder. Depressive symptoms are also common after moderate to severe TBIs in children and adolescents (Kirkwood et al., 2000; Viguier, Dellatolas, Gasquet, Martin, & Choquet, 2001). Children with TBIs typically rate their present depressive symptoms, such as feeling depressed, feeling down, and feeling hopeless about the future, higher than children without a TBI (Viguier et al., 2001) or children with an orthopedic injury (Kirkwood et al., 2000). Although children with moderate or severe TBIs do not usually meet the criteria for a clinical diagnosis of depression, they are still at a heightened risk for demonstrating these symptoms over time (Kirkwood et al., 2000). Despite the findings that depressive symptoms do not reach clinical severity, a higher frequency of antidepressants and neuroleptic drug use has been noted in children with TBI compared to children without a TBI (Viguier et al., 2001).

In a longitudinal study by Koponen et al. (2002), the authors reported that a TBI can cause a life-long susceptibility to psychiatric disorders, such as major depression, panic disorders, specific phobias, psychotic disorders, and personality disorders. This indicates that TBIs occurring in childhood and adolescence may leave an individual vulnerable to a variety of psychiatric symptoms. Consequently, routine psychiatric evaluations and follow-up visits with healthcare professionals with expertise in mental health care should be considered an integral part of treatment and follow-up care for individuals with TBIs sustained early in development (Koponen et al., 2002).

Personality/Cognitive-Behavioral Changes

Researchers also concluded that some children with TBIs were described as showing changes in personality, such as mood swings, irritability, increased argumentative behaviors, and decreased frustration tolerance, along with difficulty cooperating and impulsivity (Prigatano & Gray, 2007; Prigatano & Gray, 2008; Souza, Braga, Filho, & Dellatolas, 2007). These behavioral responses were especially indicative in pediatric clients who sustain a moderate to severe TBI. The behaviors have the potential to persist for years after the initial injury (Hawley, 2004). A study by Schwartz et al. (2003) confirmed these same findings as behavioral problem ratings increased with the severity of the head injury. However, there is a trend for parents to underreport these behavioral difficulties in the home setting. Over time the family may simply learn to tolerate the behaviors, or further, may not even recognize that these issues are a result of the TBI and represent a deviation from normal child behavior (Hawley, 2004).

Behavioral concerns also arose when persistent problems of learning difficulties and poor academic performance occurred (Prigatano & Gray, 2008). Behavioral problems

can have a strong correlation to a child's academic performance. In a study conducted by Hawley (2004), over 75% of the sample population had maladaptive behavioral responses to situations, coupled with decreased academic performance. In some cases behavioral issues became so detrimental that the child had to be expelled from the classroom due to decreased ability to manage feelings of anger, along with the expression of violence (Hawley, 2004). However, not only do maladaptive behaviors influence academic performance, but academic performance can influence a child's psychosocial status, thereby indicating a dual-natured relationship. This was evidenced by children who had sustained a TBI and had decreased academic success. Based on their parents' perceptions, these children were statistically more likely to present with an overall lower quality-of-life than their peers with average or better school performance (Souza et al., 2007). In this same study by Souza et al. (2007), the results indicated that 65% of Brazilian participants were required to repeat a grade level following the TBI. This comes in light of the fact that children who have higher academic performance are shown to have more friends (Prigatano & Gupta, 2006), indicating just one of the many ways that TBI impacts a child's social participation within and beyond the academic setting.

Social Skills

Adequate social skills are necessary to communicate effectively in order to establish and maintain healthy relationships with different people in a variety of contexts. In a study completed by Prigatano and Gray (2007), parents reported concern about their child's decrease in friendships and decline in social skills. The amount of close friends a child has is partially correlated to the severity of his or her TBI and the time of development in which the injury occurs (Prigatano & Gupta, 2006; Wells et al., 2009).

Children with moderate to severe TBIs were found to typically have the fewest friends compared to those in the trauma control group who reported having the most friends (Prigatano & Gupta, 2006). Socialization skills after TBI were found to be influenced by the severity of the injury, the child's emotional health status, and the family/social environment (Prigatano & Gray, 2008; Viguier et al., 2001).

In a study by Janusz, Kirkwood, Yeates, and Taylor (2002), the authors showed that children with TBIs had difficulties with social problem-solving during decision making situations due to immature reasoning and assessment skills. Difficulties in social problem-solving can influence a child's ability to make and maintain friendships. Social isolation is most often associated with personality changes and poor social judgment after a TBI (Prigatano & Gray, 2007). Social isolation has been linked to negative overall outcomes as problems dealing with social situations have been reported to negatively impact the child's or adolescent's quality-of-life (Souza et al., 2007).

Self-Esteem/Self-Efficacy

When a child faces difficulties in academic performance and lacks appropriate social skills, his or her self-esteem and self-efficacy can be negatively affected as well. When returning to school post-injury, children with TBIs scored lower on a self-evaluation of their self-image, self-confidence, level of self-esteem, and feelings of social isolation compared to children without TBIs (Viguier et al., 2001).

In addition to having difficulty in the school environment, children and adolescents with a TBI can experience a change in self-esteem, which can be seen during play and physical activities. Research completed by Gagnon, Swaine, Friedman, & Forget (2005) concluded that while children who sustain mild TBIs traditionally

participate in levels of physical activity that are similar to before the injury, their perceived levels of confidence during engagement in these physical activities declined at 12 weeks after the initial insult. Furthermore, these children and adolescents considered themselves to have similar athletic skills as they did prior to the injury; however, they still expressed reduced expectations for successful occupational performance (Gagnon et al., 2005). As demonstrated in the literature, this is one of many concerns that may arise for clients and their families immediately following the injury. In addition, research shows that parents and caregivers are also concerned about the future.

Future Concerns

After a TBI, current difficulties such as adapting to lifestyle changes and possible environmental adaptations are important. Yet, it is equally important to focus on the TBI's impact on a child's future. Parents of children with TBIs reported concern over their child's future. Social skills (70%) were cited as being of most concern, followed by cognition (48%), psychological needs (26%), and physical demands (22%) (Souza et al., 2007). Prigatano and Gray (2007) concurred with these findings as the authors indicated that social participation was a primary parental concern regarding children's current occupational performance. In order for clinicians in rehabilitation settings to address these concerns from clients' caregivers, it is important to conduct a thorough initial evaluation. Information regarding the pediatric client's psychosocial difficulties can be gathered by means of interview, observation of occupational performance, and utilization of standardized assessments.

Evaluation and Intervention Implementation

Evaluation Process

Prior to implementing interventions, a key component of understanding the pediatric client comes by means of the evaluation process. The OT evaluation process is composed of two key components: obtaining an occupational profile and analyzing occupational performance. The American Occupational Therapy Association (AOTA) defines the occupational profile as follows:

The initial step in the evaluation process that provides an understanding of the client's occupational history and experiences, patterns of daily living, interests, values, and needs. The client's problems and concerns about performing occupations and daily life activities are identified, and the client's priorities are determined (AOTA, 2008, p. 646).

After the OT practitioner has a thorough understanding of the pediatric client's needs, interests, and goals, analysis of occupational performance can occur by means of direct observation in naturalistic settings or administration of standardized assessment tools (AOTA, 2008).

OT practitioners are also skilled in activity analysis so direct observation provides a means for practitioners to focus on specific psychosocial skills, such as social skills. Callaway, Sloan, and Winkler (2005) suggest the importance of understanding an individual's personality and social context prior to implementing any interventions regarding social participation. The client's social skills should be evaluated in regards to social support networks, number of friends, leisure interests, and satisfaction with social participation within meaningful occupational environments (Callaway et al., 2005).

Despite the importance of the evaluation process, rarely is psychosocial functioning evaluated by healthcare professionals, except in specific situations, such as abuse or neglect (Luis & Mittenberg, 2002). Luis and Mittenberg (2002) hence recommend that evaluation procedures occur early in the recovery process to identify pediatric clients who are at risk for impaired occupational performance due to psychosocial symptoms and behavioral difficulties. Not only will this result in early identification of at-risk children and adolescents, but it will also provide a means to educate parents, caregivers, and family members on future psychosocial outcomes. In turn, this will better prepare them for what to expect in the coming months and years following the injury (Luis & Mittenberg, 2002). Occupational therapists have several assessments related to gathering information related to a child or adolescent's psychosocial functioning. For example, the Child Occupational Self-Assessment (COSA) is a client-centered, pediatric OT assessment that can be used in a variety of rehabilitative settings to evaluate and measure outcomes in the clients' abilities and values in daily occupations and roles (Keller & Kielhofner, 2005). This assessment, along with others, could serve as a valuable tool for OT practitioners to gain a better understanding of the pediatric client from a holistic viewpoint.

OT's Role in Intervention Implementation

Although OT historically began through the provision of psychosocial services, the general medical community is not always aware of the OT practitioner's role in providing this type of care. The lack of OT services in regards to psychosocial practice was exemplified in a correlational research study conducted by Slomine et al. (2006). The telephone surveys addressed healthcare utilization in the domains of cognitive, physical,

and socioemotional needs. OT practitioners were cited as appropriate healthcare providers for the physical and cognitive needs of pediatric clients following a TBI (Slomine et al., 2006). However, despite OT practitioners comprehensive psychosocial education, they were not cited as a healthcare provider for socioemotional needs; social workers, educational specialists, neuropsychologists, physicians, and counselors/psychologists were considered service providers of deficits in socioemotional functioning (Slomine et al., 2006).

However, the authors of the *Occupational Therapy Practice Framework: Domain and Process*, 2nd ed. (2008) specifically noted that it is within the domain of OT practice to address psychosocial needs. The authors stated:

Engagement in occupation as the focus of occupational therapy intervention involves addressing both subjective (emotional and psychological) and objective (physically observable) aspects of performance. Occupational therapy practitioners understand engagement from this dual and holistic perspective and address all aspects of performance when providing interventions (AOTA, 2008, p. 628).

OT practitioners play an important role in the rehabilitation of individuals who have sustained a TBI. Typically in rehabilitative care for children and adolescents post-TBI, OT practitioners provide services which include, “improving motor control and training in ADL, cognitive-perceptual remediation, and community reentry skills” (Cronin, 2001, p. 379). OT practitioners also work to restore, adapt, and increase psychosocial functioning that may have been hindered post-injury, which includes: restoring social skills and social participation, increasing self-esteem and self-efficacy, increasing

frustration tolerance, and developing coping skills to decrease behaviors and negative emotions. Rehabilitation provides an important stepping-stone in the success of the child's future. Research completed by Souza et al. (2007) concluded it is necessary for rehabilitation professionals to address academic and psychosocial concerns immediately following a TBI. Pediatric clients who have received these rehabilitative services early on post-injury were found to have reduced impairments and better long-term functional outcomes (Yen & Wong, 2007).

Throughout the time in which OT practitioners provide services for children and adolescents post-TBI, the way in which a treatment session is structured may influence how the client will benefit from the OT services. Treatment sessions for children with TBIs are found to be more beneficial “to have short, focused therapies with regular therapists in a quiet environment and to avoid over-stimulation” (Yen & Wong, 2007, p. 64). As a practitioner, it is also important that a client's therapeutic goals and interventions are clear and consistent in regards to his or her expectations to ensure the client and family has realistic outcomes and timelines for improvement in regards to improving psychosocial symptoms (Callaway et al., 2005). Towards the end of a client's rehabilitation, OT practitioners will begin to focus on adaptations geared towards occupational roles that the client may begin to participate in again upon re-entering the community.

As being a student is a particularly important and time-consuming role for children and adolescents, when the client is ready to re-enter school, OT practitioners may assist the client and family members with any accommodations or adaptations required due to sustaining a TBI. OT practitioners may play a role in helping to decide on

school placement for the child to ensure the environment and psychosocial capabilities of the child are an appropriate fit for the setting (Yen & Wong, 2007). In regards to social reintegration, OT practitioners play a valuable role in an adolescents' recovery by "providing education to family and friends, identifying and structuring communication channels for friendship, developing participation in shared activities, and promoting acquisition of skills that underpin role performance" (Callaway et al., 2005, p. 260).

Facilitating Social Participation and Friendships

Adolescents are at the developmental stage when friendships are highly valued and a majority of free time is spent with peers. Along with family members, clients would benefit from incorporating their friends in therapeutic interventions (Callaway et al., 2005). Adolescents benefit from maintaining and strengthening previous friendships throughout rehabilitation, as it provides long-term psychosocial benefits that may decrease the risk for future difficulties with social participation in natural contexts (Callaway et al., 2005). Also, by providing opportunities for children with TBIs to socially interact with his or her peers, it allows practitioners to help facilitate appropriate social skills, and in turn can help to decrease social isolation (Prigatano & Gray, 2007). Early on in treatment, OT practitioners may incorporate social participation into interventions by assisting the adolescent to call a friend, send cards or letters to friends, or write them an email. Later in the rehabilitation process, clients' friends can become involved in interventions by demonstrating everyday skills or new and more complex tasks, as well as assisting in managing challenging behaviors. Other intervention possibilities allow shared interests in occupations with friends, such as listening to music

or looking through a photo album, to be utilized to help further develop social skills (Callaway et al., 2005).

Social-Problem Solving Approaches

Researchers Wade, Michaud, and Brown (2006b) found that individualized interventions increase social problem-solving skills by addressing the individuals' unresolved issues and learning how to handle crises that may occur in the future. Further along in treatment, interventions with children involve obeying rules, sharing, being respectful to peers, and learning to problem-solve social situations. In addition, interventions focus on developing empathy and understanding of emotions to increase friendships and problem solving abilities (Prigatano & Gupta, 2006). Research conducted by Wade, Carey, and Wolfe (2006a) utilized an online cognitive-behavioral approach to treat social and behavioral issues. Wade et al. (2006a) concluded that the online program benefited children with TBIs by increasing social self-control and decreasing behavioral issues. In another study Wade, Walz, Carey and Williams (2008) employed a Teen Online Problem Solving (TOPS) program to assist in improving problem-solving and communication. The creators of the program provided social skills training to adolescents and their family. The TOPS program was shown to increase problem-solving and psychosocial functioning in adolescents (Wade et al., 2008).

Interventions for Social Reasoning

Interventions involving social reasoning skills are also imperative in determining a child's social outcome (Janusz et al., 2002). Researchers, Donders and Warschausky (2007) concluded that an intervention addressing specific social skills, such as a specific social situation, is more beneficial than a generalized teaching session in socialization.

For example, role playing a specific social situation that an adolescent may encounter with his/her peers would be more valuable for learning than teaching an adolescent about how to socialize.

Teaching a child social norms and how to control their behavioral outbursts is also beneficial to incorporate into interventions associated with social skills.

Assertiveness skills training when a child with a TBI is with peers will build social skills to increase and maintain friendships (Prigatano & Gupta, 2006). Interventions should also focus on assisting children to handle their aggression (Prigatano & Gupta, 2006).

Treatment interventions provided in a supportive environment in any context can help decrease anger in children with TBIs (Prigatano & Gray, 2007). In addition to providing ways to decrease anger, providing children and adolescents with effective coping skills can be a valuable asset to utilize upon returning to their natural contexts.

Interventions for Coping Skills

Not only is the severity of the TBI linked to psychiatric symptoms, but the child's stress level is also correlated with psychiatric conditions, such as anxiety and depression. Therefore, it is recommended that interventions address stress levels and subsequent coping skills. This should become an integral part of the therapeutic process in order to help prevent or reduce the psychosocial dysfunction that children are at risk for following a TBI (Luis & Mittenberg, 2002).

Prigatano and Gray (2007) recommend that beyond just interventions to increase coping skills, efforts to prevent and minimize displays of anger should be implemented. Healthcare providers, including OT practitioners, need to understand and become aware of risk factors associated with psychosocial symptoms, such as aggression and stress, as

this may hinder the effectiveness of therapeutic services (Cole et al., 2008). In a study by Prigatano and Gray (2008), it was reported that increased focus on frustration tolerance during the rehabilitation process is equally important. One way healthcare professionals can address this issue is by providing educational resources to the pediatric client's family members.

Family Education

Educating parents, caregivers, and family members on how to assist the child or adolescent in dealing with stress, anger, or negative emotions is just one of the many ways that healthcare providers can incorporate the family into the therapeutic process. Family education is a critical component of the rehabilitation process as upon discharge parents, caregivers, and family members are the primary individuals who will address psychosocial issues. Therefore, the family must be equipped with adequate knowledge not only about psychosocial symptoms that may ensue after a TBI, but also with behavioral methods and strategies for how to effectively cope as a family unit. This will ensure that the child's or adolescent's occupational performance is not hindered as a result of psychosocial symptoms. A study conducted by Ponsford et al. (2001), demonstrated the value of family education. A booklet was provided to the intervention group that contained information on the physical, cognitive, and psychosocial symptoms following a pediatric TBI, as well as potential coping strategies to address these issues. While the authors concluded that family education does not completely prevent the appearance of symptoms, pertinent information does "minimize stress in children and parents, optimize early management, and reduce the attribution of preexisting problems to the injury" (Ponsford et al., 2001).

Authors of other research studies have substantiated the importance of an increased emphasis on family education, especially information regarding TBI, potential psychosocial issues that may arise, specific strategies to cope with these issues, and variables of overall recovery (Luis & Mittenberg, 2002; Prigatano & Gray, 2007). It has also been suggested that increased education provided to the client and his or her family members could influence the child's level of self-efficacy during physical activity following a mild TBI (Gagnon et al., 2005).

Wade et al. (2006b) confirmed these viewpoints on the importance of family education as 100% of parents reported increased knowledge regarding TBIs, as well as a greater understanding of specific methods to address their child's behavioral symptoms following a six-month family-based problem-solving intervention. Furthermore, over 90% of the parents also felt more prepared to address future problems related to the injury that may arise. By educating family members on potential difficulties with psychosocial adjustment, they can become more adept at making accurate observations in the home environment. This information can hence be used to develop a comprehensive intervention plan that includes client-centered interventions addressing the most salient psychosocial symptoms (Prigatano & Gray, 2008).

Beyond family-based interventions that focus on direct remediation of the underlying psychosocial deficits, compensatory strategies have also been suggested as a means to improve psychosocial outcomes. In the family problem-solving intervention implemented by Wade et al. (2008), several of the sessions focused on parent education regarding environmental modifications and suggestions for grading activities to increase occupational performance. OT practitioners are in an ideal position to provide this

education to families as they are trained extensively in activity analysis as a means to determine the specific skills needed for an individual to perform desired occupations in his or her natural context (AOTA, 2008).

These findings highlight the fact that OT practitioners are trained to provide psychosocial services to the pediatric patient and his or her family after a TBI. This is specifically in regards to social skill development, utilization of effective coping skills to manage anger and stress, family education, and task analysis to modify activities and the environment to meet the psychosocial needs of pediatric clients with TBIs.

Summary

Based on the most recent literature in developmental, educational, medical, psychological, OT, and rehabilitation journals, a need for greater emphasis during the recovery process on the psychosocial needs of children and adolescents has arisen following the occurrence of a TBI. Even after a child has been discharged from the acute medical setting, the literature denotes the importance of the continuing need to address psychosocial aspects related to recovery as increasing demands are placed on occupational performance. Before healthcare professionals can effectively implement therapeutic evaluation and intervention strategies, it is important that they have a thorough understanding of the pediatric patient populations most at risk for sustaining a TBI and having specific needs following the initial injury. Equally important is knowledge regarding the psychosocial symptoms that can ensue after a pediatric TBI, which have been identified as depression, mood swings, behavioral changes, low self-esteem, and maladaptive coping and social skills.

In order to develop a holistic, client-centered intervention plan, a variety of assessment methods can be utilized to better understand the pediatric client's behavioral, emotional, and social needs. However, there is limited literature that addresses specific psychosocial assessment tools that are applicable to both OT and pediatric clients who have obtained a TBI. OT practitioners play an important role in the rehabilitation process as they are trained to provide holistic care to address physical, cognitive, and psychosocial needs. Recent research studies have identified numerous intervention strategies related to increasing coping skills, social skills, social-problem solving, and social reasoning with the pediatric client and his or her family. In congruence with best practice, the literature supports the importance of providing care and education that incorporates the client's family into practice, especially with children and adolescents, in order to increase the likelihood of successful outcomes.

Based upon recent literature findings, the need has been established for a clinical guide for OT practitioners that will assist practitioners in addressing the psychosocial needs of pediatric clients during the therapeutic rehabilitation process. The methodology used to develop this clinical guide, along with an overview of the utilized resources that will be provided in the guide, will be addressed in depth in the following chapter.

CHAPTER III

METHODOLOGY

A clinical guide for occupational therapy (OT) practitioners to utilize in pediatric rehabilitation settings was created to provide practitioners with the tools and resources necessary to address psychosocial issues during the evaluation, intervention planning, and intervention implantation processes with pediatric clients who have sustained a traumatic brain injury (TBI). In accordance with client-centered practice, the OT practitioner is encouraged to select from the tools and resources provided the most relevant assessments and intervention ideas based on the needs of each individual client and the demands of the specific work setting. Intervention ideas may be modified freely.

This clinical guide is intended to be implemented with children and adolescents between the ages of 5 and 18 years of age who have sustained a TBI. Children younger than five were not included in the target population as the therapeutic approaches addressed in the guide require a certain degree of motor, cognitive, and verbal skills, which are not always present in infants, toddlers, and children in early developmental stages. In addition, the etiology of TBIs in infants and toddlers is often associated with shaken baby syndrome. This etiological factor was excluded from the literature review due to the fact that this cause of injury presents an additional set of psychosocial challenges to the client and his or her caregivers. Therapeutic approaches, particularly

assessment tools and intervention approaches, for adolescents older than 18 years of age were also not included in this guide. Typically, the occupational focus during this developmental stage is on the transition from the client's academic role of a student to the role of a worker. This transition presents unique psychosocial issues during occupational performance that were beyond the scope of the clinical guide. There is the potential in the future for the guide to be expanded to include assessment tools and intervention approaches that address these two client populations.

The need for such a product was established by conducting a thorough review of literature regarding the behavioral, emotional, and social needs of children and adolescents following a TBI. Developmental, educational, medical, psychological, OT, and rehabilitation literature were located and reviewed by means of well-known scholarly databases, including PubMed, CINAHL, and SCOPUS. Relevant articles were based on the following components, but not exclusive to: the validity and reliability of the methodology, the inclusion and exclusion criteria applied to the sample population, and the applicability to pediatric psychosocial issues following a TBI. One-page synopses of the selected articles were completed to assist in identifying common themes in the literature, particularly in relation to psychosocial symptoms, impact on occupational functioning, and multi-disciplinary intervention approaches.

Based on these emerging themes, the literature review was structured in a coherent manner that supported these themes and findings. The literature review focused on background knowledge related to predisposition to sustaining a pediatric TBI and utilization of healthcare services following an injury; common psychosocial symptoms following a pediatric TBI; assessment measures for psychosocial functioning; and

intervention approaches from both an OT and interdisciplinary healthcare perspective. A number of authors explored the effects of depression and mood disorders, personality and cognitive-behavioral changes, impaired social skills, decreased self-esteem/self-efficacy, and the overall quality of life and emotional well-being following a pediatric TBI. The findings support the need for OT practitioners to play a greater role in addressing these symptoms as there is a significant impact on the child's or adolescent's occupational performance, particularly in regards to academic performance, play/leisure exploration and participation, and social participation.

Prior to the development of the product, an occupation-based theoretical model was selected to guide the structure and content of the clinical guide. The Occupational Adaptation (OA) frame of reference was utilized to outline and organize the format of the clinical guide to address the occupational challenges children and adolescents face following a TBI. The OA frame of reference was selected as it allows children and adolescents to develop relative mastery in response to the occupational challenges that are present following a TBI, particularly in relation to psychosocial issues. As the OA frame of reference emphasizes the importance of individualized, client-centered therapeutic services, this clinical guide is meant to serve only as a guiding tool. Rather than providing mandated strategies, the OT practitioner is encouraged to select the most client-appropriate assessments and adapt the intervention techniques to match the individual needs of each client. This is critical as each pediatric client will have his or her own internally motivating occupations that will guide the therapeutic process.

An individual displays relative mastery when performing an occupational activity efficiently, effectively, and to the level of satisfaction in which the individual is pleased

with occupational performance (Schkade & Schultz, 2003). This was found to be congruent with the research collected in the literature review, as children and adolescents receive little to no psychosocial rehabilitation and experience long-term psychosocial deficits that negatively impact their ability to function optimally in daily activities (Greenspan & MacKenzie, 2000; Hawley, 2004; Slomine et al., 2006; Souza, Braga, Filho, & Dellatolas, 2007). The OA frame of reference was also chosen because of its emphasis on the individual holistically, featuring three subsystems of a person: sensorimotor, cognitive, and psychosocial functioning, which in turn create clients' occupational role expectations (Schkade & Schultz, 2003). Through this clinical guide, OA influenced the need to focus some attention on skill development, but also to find what is meaningful to the individual client based on what is required of the individual in his or her expected occupational roles in a natural context.

The OA frame of reference was also utilized as a basis for structuring the learning needs of children and adolescent clients who are receiving therapeutic services from OT practitioners. Following a TBI, a pediatric client is faced with many life-altering occupational challenges and occupational role expectations due to a variety of possible deficits, which may in turn affect his or her psychosocial functioning. Likewise, these psychosocial deficits may have an equally detrimental impact on the quality of occupational performance. The use of this frame of reference increases the client's problem-solving abilities by allowing the client to work through occupational challenges with guidance from the OT practitioner. Rather than teaching specific skills, the adaptation process allows the client to generalize behavioral, emotional, and social strategies to a variety of occupational adaptations. These adaptations will result in more

effective, efficient, and satisfying role performance across the lifespan and in a variety of contexts (Schkade & Schultz, 2003).

The adult learning theory was utilized as a supplemental theoretical base. Due to the fact that OT practitioners will be implementing the presented strategies, it was critical to ensure that the information was developed in a manner that addressed the unique needs of adult learners. More specifically, adult learners are self-directed learners that prefer being presented with only the most relevant information which can be applied to previous learning experiences (Merriam, 2001). Therefore, the guide was structured in a manner which allows OT practitioners to utilize his or her previous clinical experiences when working with children and adolescents. This knowledge can then be used to adapt and modify the presented approaches to meet the individual needs of each client.

Utilizing the core concepts of these two theoretical bases, the clinical guide was developed to address not only the needs of the OT practitioners that would be implementing the strategies, but also the children, adolescents, and family members who will be the direct recipients of the services. Education is also targeted at school system professionals who are also likely to influence occupational performance. In congruence with the *Occupational Therapy Practice Framework*, 2nd ed. (2008), the subsections of the clinical guide were organized in a similar fashion to the therapeutic process. The primary subsections include: background information on pediatric TBIs; psychosocial issues experienced by children and adolescents following a TBI; the OT practitioner's role in addressing psychosocial symptoms; OT assessment tools that address quality-of-life and well-being, behavioral management, mood regulation, and stress management; information relevant to writing OT psychosocial goals; and OT interventions to address

behavior management, social skills, self-esteem, and emotional well-being. In order to fulfill OT's consultation role, information is also included on relevant service provision to family members and school system professionals.

In order to increase the ease of implementation of the suggested strategies, reproducible handouts have been included throughout the clinical guide. These handouts are specifically denoted in the table of contents due to the applicability this information has on providing direct therapeutic services to clients. The OT practitioner is encouraged to use and adapt the reproducible handouts to document changes in symptoms by means of simple and objective checklists. In addition, handouts to utilize during intervention sessions address behavior management, coping skills, anger management, and social skills. The handouts have been adapted for both children and adolescents, and the OT practitioner is granted permission to further alter the content of any handouts to meet the needs of each individual client. In accordance with best standards of practice, the clinical guide also includes educational handouts for family members and school system professionals as these individuals have a critical role in ensuring the child or adolescent successfully adapts to the psychosocial demands of a TBI.

In addition to information that addresses direct therapeutic service delivery, additional resources are provided to further stimulate the OT practitioner's clinical reasoning skills and knowledge. The last subsection includes a list of scholarly and clinical references, including but not limited to research articles, textbooks, and websites. The resources have been organized in conjunction with the themes of the guide to increase the ease of which practitioners can locate additional information on specific topics of interest related to pediatric TBIs.

The reader is directed to Chapter IV for more specific information on the structure and content of the clinical guide. In addition to the actual clinical guide, information on the objectives of the clinical guide, the proposed target population, and recommendations for implementation are addressed to assist the OT practitioner in incorporating psychosocial factors into traditional rehabilitation services in an inpatient or outpatient physical disability setting.

CHAPTER IV

PRODUCT

In congruence with the literature, pediatric clients who sustain a traumatic brain injury (TBI) experience a wide-range of behavioral, emotional, and social deficits that impact client's efficiency, effectiveness, and satisfaction with occupational performance (Schkade & Schultz, 2003). Guided by the Occupational Adaptation (OA) frame of reference, adult learning theory, and the *Occupational Therapy (OT) Practice Framework*, 2nd ed. (2008), this clinical guide is meant to assist OT practitioners through the clinical reasoning process of providing client-centered psychosocial services in a rehabilitation setting to pediatric clients who have sustained a TBI.

The guide is intended to be utilized by OT practitioners working in inpatient and outpatient physical disabilities settings who provide therapeutic services to pediatric clients between the ages of 5 and 18 years of age who have sustained a TBI. The goals of this clinical guide have been structured based on the main concepts of two theoretical bases. The goals of the Occupational Adaptation frame of reference target pediatric clients, while needs of OT practitioners are addressed by the adult learning theory. *Occupational Adaptation Frame of Reference* (Schkade & Schultz, 2003)

1. The pediatric client will actively be involved in selecting and participating in meaningful occupations that address psychosocial challenges.

2. The pediatric client will develop adaptive strategies to overcome occupational challenges presented in the natural context.
3. The pediatric client will achieve relative mastery in psychosocial adaptations by becoming efficient, effective, and satisfied in his/her performance in daily occupations.
4. The pediatric client will address internal and external occupational role expectations that collaboratively creates the press for mastery in the home, school, and community.

Adult Learning Theory (Merriam, 2001)

1. The OT practitioner will self-direct his/her learning process by independently selecting the information most relevant to pediatric clients with TBIs at his/her work setting.
2. The OT practitioner will adapt and individualize suggested strategies and activities based on previous knowledge and clinical experiences to meet the needs of each pediatric client.
3. The OT practitioner will use the interactive workbook as a means to apply knowledge and strategies to the needs of specific clients.

Based on the *Occupational Therapy Practice Framework*, 2nd ed. (2008), the subsections of the clinical guide were organized in a similar fashion to the therapeutic process. The primary subsections include: background information on pediatric TBIs; psychosocial issues experienced by children and adolescents following a TBI; the OT practitioner's role in addressing psychosocial symptoms; OT assessment tools that address quality-of-life and well-being, behavioral management, mood regulation, and

stress management; information relevant to writing OT psychosocial goals; OT interventions to address behavioral management, social skills, self-esteem, and emotional well-being.

In order to increase the ease of implementation of the suggested strategies, reproducible handouts have been included throughout the clinical guide. These handouts are specifically denoted in the table of contents due to the applicability this information has on providing direct therapeutic services. The OT practitioner is encouraged to use the reproducible handouts to document changes in symptoms in a simple and objective manner using a checklist format. In addition, handouts for clients and OT practitioners to utilize during intervention sessions are provided. These handouts address the occupational readiness skills related to behavioral management, coping skills, anger management, and social skills. The handouts have been adapted for both children and adolescents. The OT practitioner is granted permission to further alter the content of the handouts to meet the needs of each individual client. In accordance with best standards of practice, the clinical guide includes educational handouts for family members and school system professionals as these individuals have a critical role in ensuring the child or adolescent successfully adapts to the psychosocial demands of a TBI. All of these handouts have been incorporated into a separate workbook to increase the ease of implementation of the suggested interventions.

In addition to information that addresses direct therapeutic service delivery, resources are provided to further stimulate the OT practitioner's knowledge of pediatric TBIs. The last subsection includes a list of scholarly and clinical references, including but not limited to research articles, textbooks, and reputable websites. The resources have

been organized in conjunction with the themes of the guide to increase the ease at which practitioners can locate additional information on specific topics of interest related to pediatric TBIs.

The structure and content of the clinical guide was influenced by two theoretical bases of knowledge. The OA frame of reference was selected as the primary theoretical base as it has direct application to the children and adolescents who will be receiving OT services. The OA frame of reference focuses on the interaction between the individual's desire for mastery based on internal role expectations and the demand for mastery that the external environment exerts on the individual (Schkade & Schultz, 2003). This interaction results in a demand for mastery, which is the "interactive press that spurs the demand for the client to produce an adaptive response" (Schkade & Schultz, 2003, p. 187). The demand for mastery is a direct result of the individual's work, play/leisure, and self-care occupational environments where the individual carries out his/her meaningful occupations (Schkade & Schultz, 2003). Each of these environments is composed of a unique set of physical, social, and cultural subsystems that influence the overall contextual environment (Schkade & Schultz, 2003). While the OT practitioner takes into consideration the occupational environment in which the individual is carrying out his/her occupational roles, the individual receives the primary focus during the therapeutic process. The OT practitioner views the client from a holistic perspective, in which each client is considered to have a unique set of interdependent sensorimotor, cognitive, and psychosocial skills (Schkade & Schultz, 2003).

The OA frame of reference allows the OT practitioner to utilize two approaches during the intervention implementation process, occupational readiness and occupational

activity. While both methods should be integrated into the intervention planning and intervention implementation process, the pediatric client should primarily be engaged in meaningful occupational activities. This will not only result in increased relative mastery, but also greater generalization of skills to novel situations (Schkade & Schultz, 2003). Achievement of relative mastery is the primary goal of this theoretical basis, which results from the adaptation process. As the individual is confronted with occupational challenges throughout the lifespan, the adaptation process allows the individual to evaluate and adapt his/her occupational performance in regards to efficiency, effectiveness, and self/societal satisfaction (Schkade & Schultz, 2003). These three properties of relative mastery are evaluated based on internal role expectations, as well as external expectations from the occupational environment. This is particularly in regards to the demands exerted by the physical, social, and cultural subsystems.

Pediatric clients who have sustained a TBI will experience occupational challenges when engaged in meaningful occupations. In congruence with the OA frame of reference, each pediatric client with a TBI will express a desire for mastery to overcome these occupational challenges (Schkade & Schultz, 2003). If the child or adolescent does not demonstrate this motivation, the OT practitioner is encouraged to consult with the pediatric client's family members. The press to overcome occupational challenges following a pediatric TBI is also a direct result of the demands of the occupational environment. For children and adolescents, play/leisure and self-care environments are particularly salient.

The clinical guide is structured in a manner to address both occupational readiness skills and engagement in meaningful, occupational activities. While the sensorimotor,

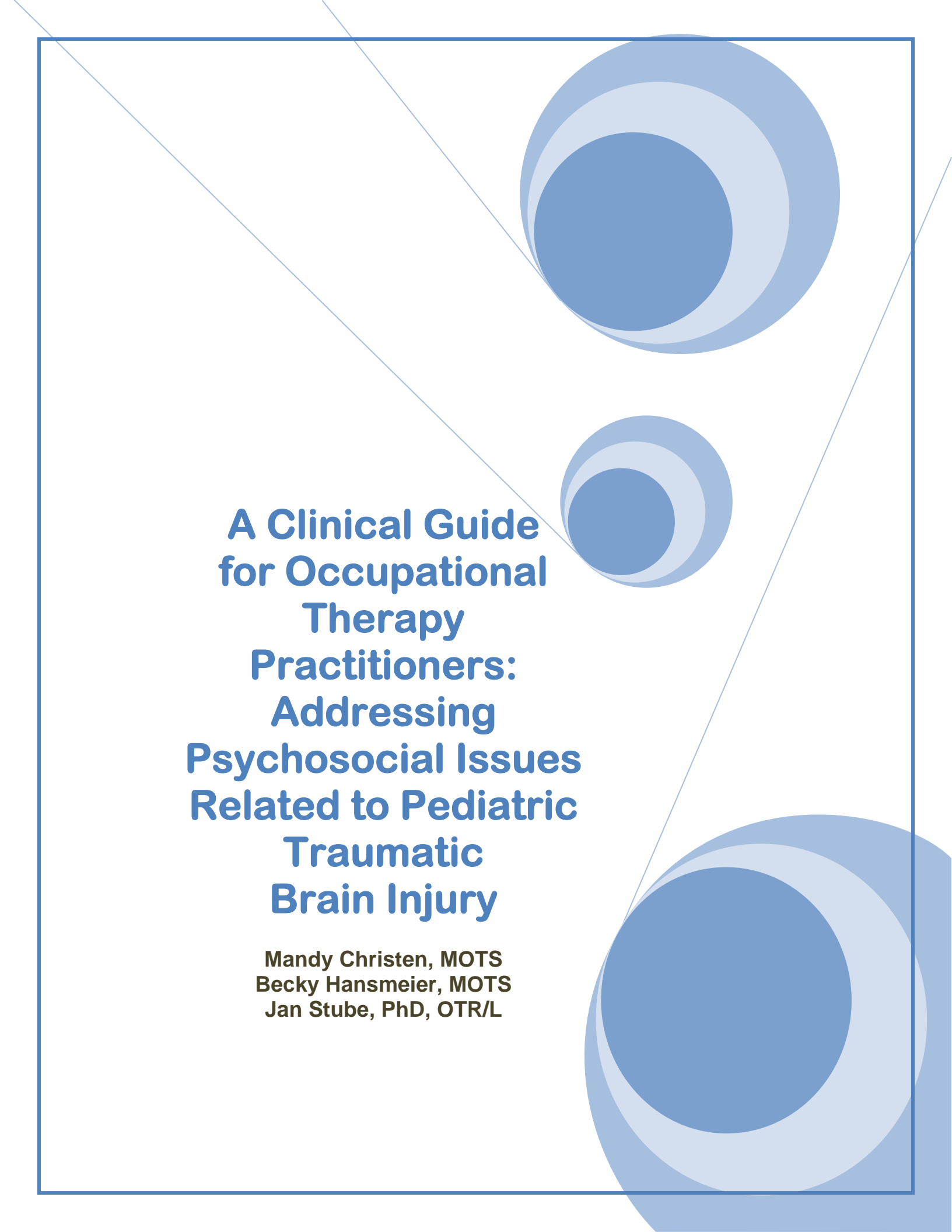
cognitive, and psychosocial systems are interrelated, the clinical guide will focus on the psychosocial system during the intervention process. The OT practitioner is provided with assessment tools and intervention ideas for the evaluation and treatment of occupational readiness skills, including behavioral management, mood regulation, stress management, and social skills. While these skills are initially addressed, the OT practitioner is encouraged to primarily focus on meaningful occupational activities. As a result, the adaptation process will be facilitated as pediatric clients will find these interventions to be more meaningful. This is of particular importance, as the clinical guide was structured in a manner to encourage client-centered practice. Rather than being a strict set of guidelines that follow a protocol-type format, the clinical guide provides the OT practitioner with the freedom to adapt suggested intervention strategies and activities to meet the unique needs of each pediatric client.

The ultimate goal for use of this clinical guide is that the pediatric client will achieve relative mastery in his/her daily occupations. Through the utilization of this clinical guide by OT practitioners, the therapeutic process will allow the pediatric client to adapt and evaluate his/her performance in relation to occupational challenges. This is of particular importance as the psychosocial issues as a result of a TBI can be life-long. Therefore, it is critical for the pediatric client to develop insight and awareness into his/her psychosocial abilities during daily occupational activities. Realistically, life-long therapeutic services are not feasible, so therefore the pediatric client who has sustained a TBI must be his/her own agent of change (Schkade & Schultz, 2003). By gaining relative mastery, the pediatric client will have the ability to evaluate the efficiency, effectiveness, and satisfaction with occupational performance. This insight and increased self-

awareness will allow pediatric clients to continually adapt to occupational challenges that are present across the lifespan.

The adult learning theory was utilized as a second theoretical base of knowledge to structure the clinical guide. During the guide's development, it was recognized that each OT practitioner will have a unique set of learning needs and preferences when organizing and implementing the presented information. Therefore, the guide was structured in a manner that would be conducive to a variety of adult learner needs in congruence with the five basic assumptions of the theory. The clinical guide was created to allow for self-directed learning based on meaningful information relevant to the OT practitioner's experiences with pediatric clients with TBIs. The information and strategies in the clinical guide are intended to be adapted by the OT practitioner. Drawing upon previous knowledge and clinical experiences, the OT practitioner should individualize therapeutic approaches to meet the unique needs of each pediatric client. In congruence with adult's preference for problem-based learning, reproducible handouts and interactive worksheets allow the OT practitioner to apply key concepts to current clinical experiences.

The clinical guide is presented in its entirety in the following pages. It is the authors' intention that OT practitioners will use the background information and reproducible handouts to incorporate psychosocial components into the rehabilitative process with pediatric clients with a TBI.



A Clinical Guide for Occupational Therapy Practitioners: Addressing Psychosocial Issues Related to Pediatric Traumatic Brain Injury

**Mandy Christen, MOTS
Becky Hansmeier, MOTS
Jan Stube, PhD, OTR/L**

Introduction

This clinical guide is meant to provide occupational therapy (OT) practitioners with the tools to address the psychosocial issues experienced by pediatric clients with a traumatic brain injury (TBI). Due to an emphasis on the medical-based model and increasing demands placed on OT practitioners, the psychosocial aspects of a TBI have the potential to go unrecognized or untreated. An additional consideration is that as the pediatric client ages and more demands are placed on the child or adolescent, psychosocial deficits become more salient leading to increased difficulty in engagement in meaningful occupations. By initially addressing these issues, the OT practitioner can better prepare the pediatric client and his or her family members to develop effective adaptive responses, allowing for enhanced occupational performance.

This guide will walk you through the OT psychosocial therapeutic process from the beginning stages of establishing rapport with the pediatric client and his or her family to implementing occupation-based interventions. The OT practitioner is provided with background information regarding pediatric TBI, as well as strategies for how to effectively communicate and relate to the client and his or her family. Samples of pediatric assessments, psychosocial OT goals, and OT interventions are provided in this clinical guide so you can select the most appropriate resources for your setting and the clients that you assist. Educational handouts are included and available for you to distribute to family members and other professionals.

Keep in mind that this clinical guide should be used for the sole purposes of facilitating the OT process, as each client is unique and therefore your clinical reasoning skills will be utilized to provide client-centered therapy for your client. It is highly recommended that you consult additional resources and keep current with evidence regarding care of pediatric clients post-TBI. The authors' hope is that this clinical guide not only provides tools for OT practitioners to utilize in the clinical setting, but also benefits pediatric clients and family members by successfully preparing them to cope with the psychosocial issues associated with TBI within their natural contexts.

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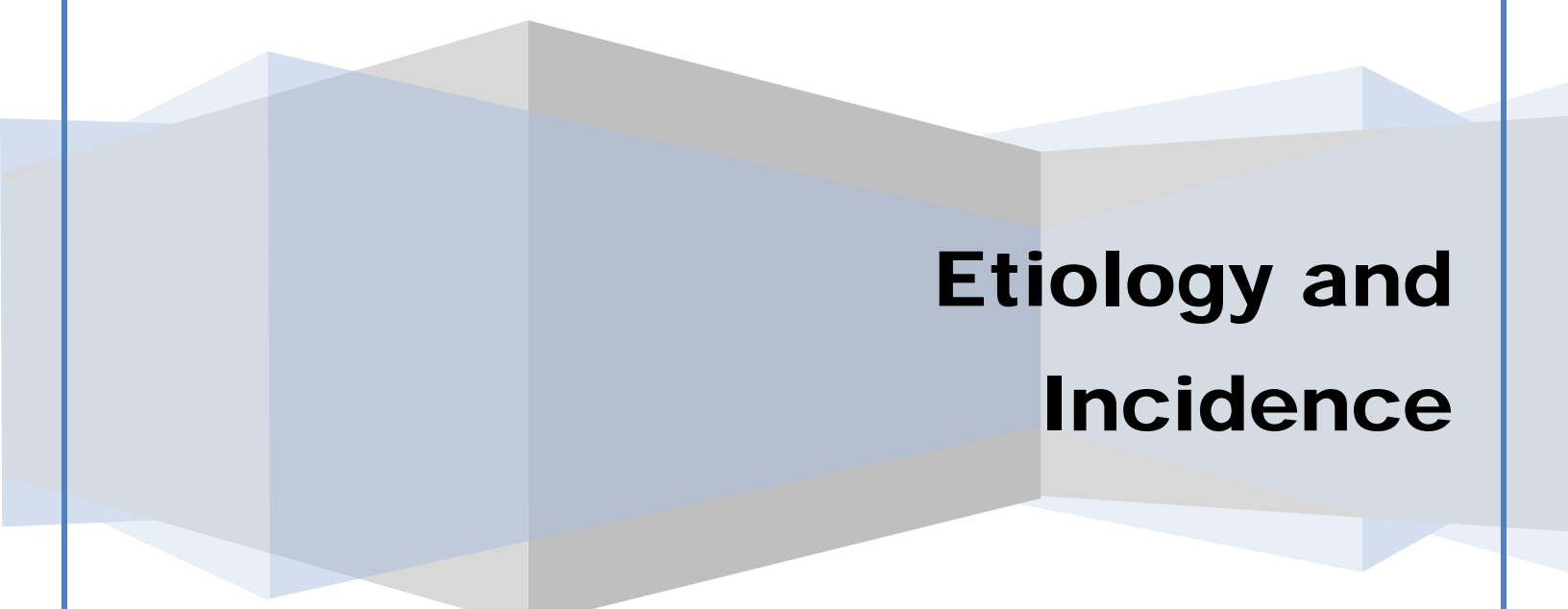
Background Information

Understanding Pediatric Traumatic Brain Injury

This section provides you with concise information regarding etiology and incidence related to pediatric traumatic brain injury. Information about common terminology used in acute medical settings is included to help you better understand information you may encounter when reviewing pediatric clients' medical records and completing a chart review.

Etiology and Incidence of Pediatric Traumatic Brain Injury

- Causes of Traumatic Brain Injury
- Facts & Statistics



Etiology and
Incidence

Causes of Traumatic Brain Injury (TBI) Resulting in Hospitalization, Emergency Department Visits, or Death (1995 – 2001)

Children 0 to 14 years of age who have sustained a TBI

Causes	% of Total Cases
Other Causes	41%
Falls	39%
Motor-Vehicle Accidents/ Traffic Related Accidents	11%
Unknown Causes	5%
Assault	4%

Children 5 to 14 years of age who have sustained a TBI (Annual incidence and rates per 100,000)

	Falls	Other / Unknown
5 to 9 years	44,000 (216 per 100,000)	58,000 (47.6 per 100,000)
10 to 14 years	23,000 (115.2 per 100,000)	62,000 (54.7 per 100,000)

Adolescents 15 to 19 years of age who have sustained a TBI

Causes	Annual Incidence	Rate (per 100,000)
Motor-Vehicle Accidents/ Traffic Related Accidents	40,000	204.6
Assaults	22,000	111.6
Other/Unknown	49,000	37.6

Source:

Langlois J. A., Rutland-Brown, W., & Thomas K. E. (2006). *Traumatic brain injury in the United States: Emergency department visits, hospitalizations, and deaths*. Retrieved on February 21, 2009, from [http://www.cdc.gov/ncipc/tbi/TBI_in_US_04/TBI in the US_Jan_2006.pdf](http://www.cdc.gov/ncipc/tbi/TBI_in_US_04/TBI_in_US_Jan_2006.pdf)

Facts & Statistics

- On average, approximately 418,000 children and adolescents between the ages of 5 and 19 years of age sustain a TBI each year.
 - 5 to 9 years: 133,000
 - 10 to 14 years: 125,000
 - 15 to 19 years: 160,000
 - Children and adolescents are two of the three populations most at risk for sustaining a TBI.
 - Male pediatric clients 0 to 19 years of age are more likely than females to sustain a TBI.
 - Adolescents 15 to 19 years of age had the highest rate of sustaining a TBI as a result of motor-vehicle accidents (273.1 per 100,000) or an assault-related injury (125.9 per 100,000).
 - Of the 475,000 TBIs sustained by children and adolescents between the ages of 0 and 14 years, 91.5% (435,000) reported to an emergency room department.
 - 5 to 9 years: 122,000
 - 10 to 14 years: 113,000
 - 15 to 19 years: 129,000
 - Older adolescents 15 to 19 years of age accounted for the second highest rate of emergency department utilization as a result of a TBI.
 - 15 to 19 years: 661.1 per 100,000
 - Forty-seven thousand children and adolescents between the ages of 5 and 19 years of age are hospitalized as a result of a TBI.
 - 5 to 9 years: 11,000
 - 10 to 14 years: 11,000
 - 15 to 19 years: 25,000
- NOTE:** In 2003 the CDC released updated statistics regarding hospitalization rates.
- 5 to 14 years: 24,000
- On average, 6,341 children and adolescents 5 to 19 years of age die due to injuries sustained from a TBI.
 - 5 to 9 years: 628
 - 10 to 14 years: 957
 - 15 to 19 years: 4,756
- NOTE:** In 2003 the CDC released updated statistics regarding death rates.
- 5 to 14 years: 1,250

NOTE: In 2003 the CDC released updated statistics regarding emergency department utilization.

- 5 to 14 years: 188,000

Sources:

Centers for Disease Control (2003). *Numbers and rates of traumatic brain injury-related emergency department visits, hospitalizations, and deaths, by age group, United States, 2003*. Retrieved on February 24, 2009, from http://www.cdc.gov/ncipc/pub-res/TBI_in_US_04/TBI_Tables_2003.pdf

Langlois J. A., Rutland-Brown, W., & Thomas K. E. (2006). *Traumatic brain injury in the United States: Emergency department visits, hospitalizations, and deaths*. Retrieved on February 21, 2009, from [http://www.cdc.gov/ncipc/tbi/TBI_in_US_04/TBI in the US_Jan_2006.pdf](http://www.cdc.gov/ncipc/tbi/TBI_in_US_04/TBI_in_US_Jan_2006.pdf)

Medical Terminology Relevant to Pediatric Traumatic Brain Injury

Terminology

Important Medical Terminology

Traumatic Brain Injury: “Traumatic brain injury is an insult to the brain, not of degenerative or congenital nature but caused by an external physical force, that may produce a diminished or altered state of consciousness, which results in an impairment of cognitive abilities or physical functioning. It can also result in the disturbance of behavioral or emotional functioning. These impairments may be either temporary or permanent and cause partial or total functional disability or psychosocial maladjustment” (Brain Injury Association Board of Directors, 1986, as cited in Brain Injury Association, n.d.).

Anoxia: A total lack of oxygen to the brain resulting in cell damage (Brain Injury Association of America, n.d.).

Anterograde amnesia: Deficits in cognition that impact individuals’ abilities to learn new information after a head injury is sustained (Sadock & Sadock, 2004).

Closed Head Injury: Insult to the head that does not result in a skull fracture. Further injury can occur due to brain swelling, which results in increased intracranial pressure and tissue compression (Brain Injury Association of America, n.d.).

Hypoxia: A reduction in an adequate supply of blood flow to brain cells (Brain Injury Association of America, n.d.).

Neuroplasticity: Following an injury to the brain, functioning brain cells are able to reorganize pathways to compensate for damaged and injured areas (Phipps, 2005).

Open Head Injury: Head injury that causes a skull fracture. Reference is made to impact on the skull, not the brain (Brain Injury Association of America, n.d.).

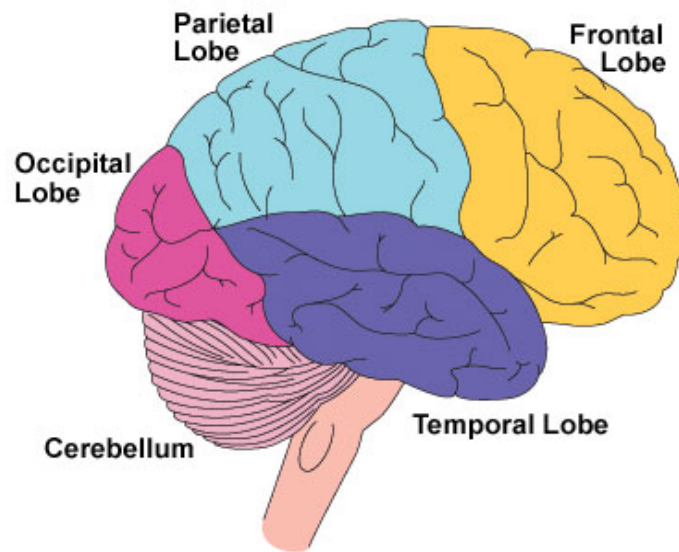
Post-Traumatic Amnesia: Short-term and/or long-term memory impairments as the result of a head injury (Phipps, 2005).

Retrograde Amnesia: Deficits in cognition that impact individuals’ abilities to recall information that was stored in long-term memory prior to the head injury (Sadock & Sadock, 2004).

Sources:

- Brain Injury Association of America (n.d.). *Living with brain injury: Types*. Retrieved on February 16, 2009, from <http://www.biausa.org/education.htm#types>
- Phipps, S. C. (2005). The cognitive, behavioral, and psychosocial sequelae of brain injury. In E. Cara, & A. MacRae (Eds.), *Psychosocial occupational therapy: A clinical practice* (2nd ed.) (pp. 394-422). Clifton Park, NY: Thomson Delmar Learning.
- Sadock, B. J., & Sadock, V. A. (2004). Delirium, dementia, and amnestic and other cognitive disorders and mental disorders due to a general medical condition. In B. J. Sadock, & V. A. Sadock (Eds.), *Kaplan & Sadock’s concise textbook of clinical psychiatry* (2nd ed.) (pp. 45-72). Philadelphia, PA: Lippincott Williams & Wilkins.

Anatomy / Physiology of the Brain



Anatomy/
Physiology

Anatomy / Physiology of the Brain

Frontal Lobe

- Attention and concentration
- Emotions
- Expressive language
- Inhibition of behavior
- Initiation
- Judgment
- Mental flexibility
- Motor planning
- Organization
- Personality
- Planning
- Problem-solving
- Self-awareness

Temporal Lobe

- Hearing
- Memory
- Organizing information
- Receptive language (understanding what another person has said)
- Sequencing information

Parietal Lobe

- Identification of objects by means of size, shape, colors
- Spatial abilities
- Tactile sensation
- Visual perception

Occipital Lobe

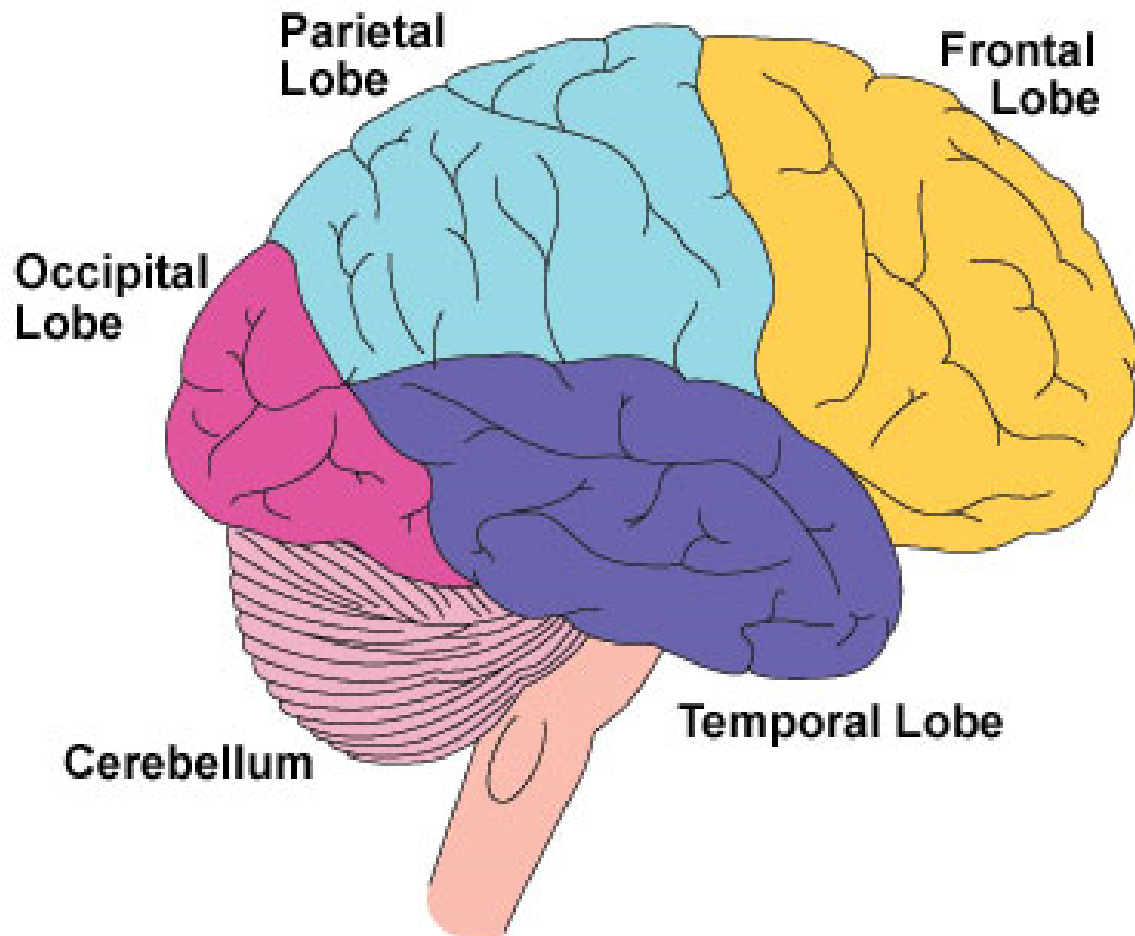
- Visual acuity
- Visual fields

Cerebellum

- Balance
- Coordination
- Motor activity

Brain Stem

- Arousal and consciousness
- Attention and concentration
- Breathing
- Heart rate (HR)
- Sleep and wake cycle

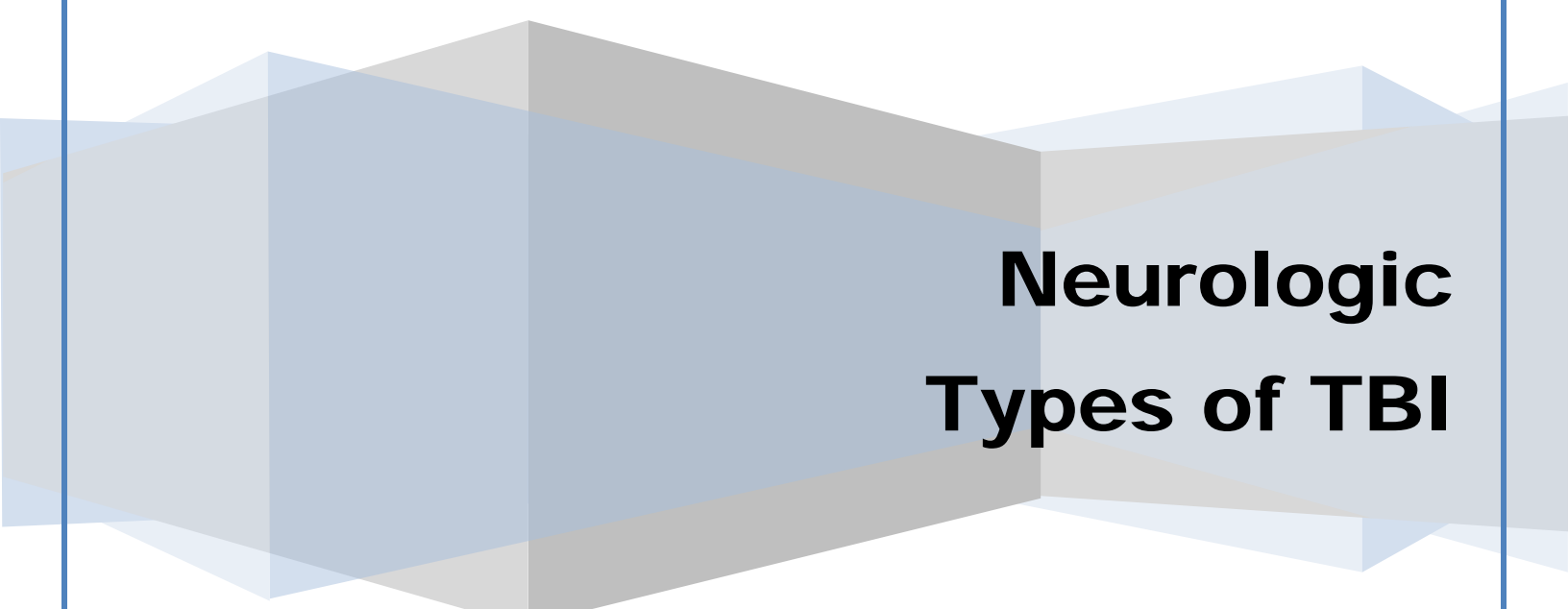


Used with written permission of Steven Igou (2009). Refer to Appendix A.

Sources:

- Brain Injury Association of America (n.d.). *Living with brain injury: Brain maps*. Retrieved on February 16, 2009, from <http://www.biausa.org/education.htm#brainmaps>
- Igou, S. (2009). [Visual representation of the brain February 16, 2009]. *Symptom checklist from the Montana Publishing*. Retrieved from <http://www.braininjury.com/symptoms.html>
- Phipps, S. C. (2005). The cognitive, behavioral, and psychosocial sequelae of brain injury. In E. Cara, & A. MacRae (Eds.), *Psychosocial occupational therapy: A clinical practice* (2nd ed.) (pp. 394-422). Clifton Park, NY: Thomson Delmar Learning.

Neurologic Types of Pediatric Traumatic Brain Injury



Neurologic
Types of TBI

Types of Injury

Name	<ul style="list-style-type: none">• Concussion• Most common type of brain injury
Causes	<ul style="list-style-type: none">• Direct impact, gunshot wound, shaking, or whiplash
Immediate Impact	<ul style="list-style-type: none">• Blood vessels are stretched• Cranial nerves are damaged
Long-Term Impact	<ul style="list-style-type: none">• Recovery is months to years

Name	<ul style="list-style-type: none">• Diffuse Axonal Injury
Causes	<ul style="list-style-type: none">• Shaking (e.g., Shaken Baby Syndrome)• Rotation (e.g., car accident)
Immediate Impact	<ul style="list-style-type: none">• Nerve tearing• Chemical release
Long-Term Impact	<ul style="list-style-type: none">• Functional deficits

Types of Injury (Continued)

Name	<ul style="list-style-type: none">• Contusion
Causes	<ul style="list-style-type: none">• Direct impact
Immediate Impact	<ul style="list-style-type: none">• Bruising/Bleeding• Surgical removal may be necessary
Long-Term Impact	<ul style="list-style-type: none">• Functional deficits based on location of impact

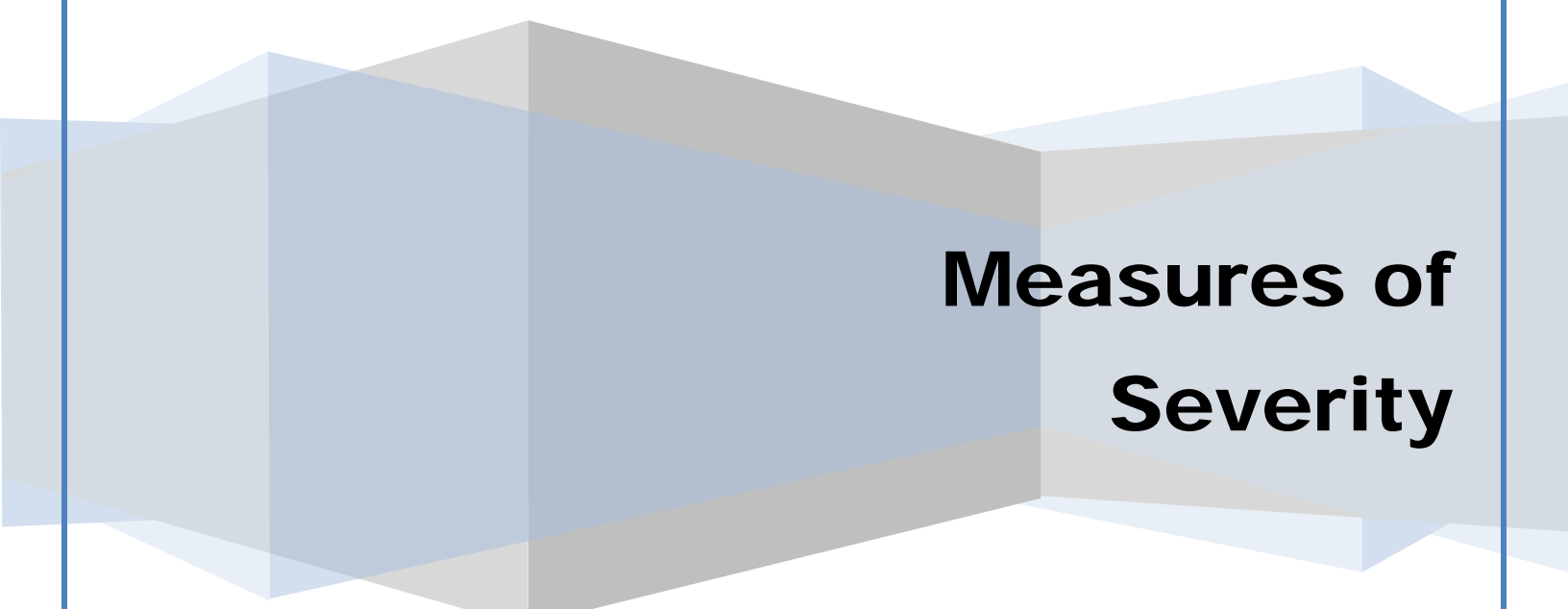
Name	<ul style="list-style-type: none">• Coup-Contrecoup Injury
Causes	<ul style="list-style-type: none">• Direct, forceful impact to the head
Immediate Impact	<ul style="list-style-type: none">• Contusion at site of injury• Brain slams against opposite side
Long-Term Impact	<ul style="list-style-type: none">• Functional deficits based on location of direct impact and impact on opposite side of brain.

Source:

Brain Injury Association of America (n.d.). *Living with Brain Injury: Types*. Retrieved on February 16, 2009, from <http://www.biausa.org/education.htm#types>

Measures of Severity

- Severity of Injury
- Glasgow Coma Scale
- The Rancho Levels of Cognitive Functioning



Measures of
Severity

Severity of Injury

Severity Level	<ul style="list-style-type: none">• Mild Traumatic Brain Injury
Glasgow Coma Score	<ul style="list-style-type: none">• 13 - 15
Loss of Consciousness	<ul style="list-style-type: none">• May not even occur• Seconds to minutes
Physical Symptoms	<ul style="list-style-type: none">• Headache, fatigue, sleep problems, impaired balance, visual/auditory sensitivity, and nausea
Cognitive Symptoms	<ul style="list-style-type: none">• Impaired concentration/attention• Memory problems• Decreased mental processing
Psychosocial Symptoms	<ul style="list-style-type: none">• Depression/Anxiety• Mood Swings
Behavioral Symptoms	<ul style="list-style-type: none">• Irritability

Severity of Injury (Continued)

Severity Level	<ul style="list-style-type: none">• Moderate Traumatic Brain Injury
Glasgow Coma Score	<ul style="list-style-type: none">• 9-12
Loss of Consciousness	<ul style="list-style-type: none">• Minutes to hours• Confusion for days to weeks
Symptoms	<ul style="list-style-type: none">• Same as mild traumatic brain injury• More long-lasting effects

Severity of Injury (Continued)

Severity Level	<ul style="list-style-type: none">• Severe Traumatic Brain Injury
Glasgow Coma Score	<ul style="list-style-type: none">• < 8
Loss of Consciousness	<ul style="list-style-type: none">• Minutes to hours• Confusion for days to weeks
Symptoms	<ul style="list-style-type: none">• Recovery is possible• Permanent impairments

Source:

Brain Injury Association of America (n.d.). *Living with Brain Injury: Types*. Retrieved on February 16, 2009, from <http://www.biausa.org/education.htm#types>

Glasgow Coma Scale

Purpose: The Glasgow Coma Scale provides physicians with a means to rate the severity of brain injury. There are three primary domains of functioning.

Three Categories of Assessment

1.) Eye Opening

- Score: 2 to 4

2.) Motor Responses

- Score: 2 to 6

3.) Verbal Response (Expressive and Receptive Speech)

- Score: 1 to 5

Scoring

Mild Brain Injury	13 - 15
Moderate Brain Injury	9 - 12
Severe Brain Injury	< 8

Source:

Phipps, S. C. (2005). The cognitive, behavioral, and psychosocial sequelae of brain injury. In E. Cara, & A. MacRae (Eds.), *Psychosocial occupational therapy: A clinical practice* (2nd ed.) (pp. 394-422). Clifton Park, NY: Thomson Delmar Learning.

The Rancho Levels of Cognitive Functioning - Revised

Purpose: The Rancho Levels of Cognitive Functioning-Revised provides the rehabilitation team with an objective means to document progress following a brain injury. Note that this scale is used for adults so applicability to children and adolescents should be done cautiously.

The purpose of the Rancho Levels of Cognitive Functioning-Revised:

- Assess client's current level of cognitive functioning.
- Document measurable changes in client's behavior.
- Establish goals and intervention plans to match the client's current level of cognitive functioning.

Source:

Hagen, C. (1998). *The Rancho levels of cognitive functioning: The revised levels* (3rd ed.). Retrieved on February 26, 2009, from http://www.rancho.org/patient_education/cognitive_levels.pdf

The Rancho Levels of Cognitive Functioning

Note: The information below reflects the behavioral and psychosocial aspects of each cognitive level. Tables adapted with written permission of Bertha Cabral (2009). Refer to Appendix B.

Level 1: No Response

- No behavioral responses.
- No responses to the external environmental or sensory stimulation.

Level 2: Generalized Response

- Inconstituent and non-purposeful responses to stimuli. Slow and delayed responses.
- May react to pain reflexively.

Level 3: Localized Response

- Purposeful, but inconsistent responses to direct stimuli.
- Awareness of discomfort and pain by pulling at tubes/restraints.
- Inconsistently follows simple commands. Delayed responses.

Level 4: Confused, Agitated

- Aggressive behaviors.
- Lack of insight and ability to self-regulate.
- Increased affective responses to stimuli.
- Mood swings not congruent with environmental stimuli.
- Decreased cooperation and inappropriate verbalizations/social skills.

Level 5: Confused, Inappropriate, Non-Agitated

- Agitated by lack of structure.
- Lack of self regulation.
- Requires external cues to appropriately socialize for short time periods. Receptive speech may be inappropriate.

Level 6:
**Confused-
Appropriate**

- Improved awareness about self and relationships with others.
- Lack of awareness regarding physical/psychosocial limitations.
- Appropriate social interactions in structured environments.

Level 7:
**Automatic-
Appropriate**

- General awareness of disability.
- Lack of insight with realistic planning.
- Lack of awareness about other peoples' opinions and feelings.
- Lack of cooperation. Oppositional.
- Lack of recognition of inappropriate social behaviors.

Level 8:
**Purposeful-
Appropriate**

- Awareness of limitations that hinder occupational performance.
- Responds to other people's needs and feelings/recognize inappropriate social behavior with minimum assistance. Focuses primarily personal needs.
- Depressed/irritable.
- Decreased frustration tolerance/difficulties controlling anger.

Level 9:
**Purposeful-
Appropriate**

- Accurate estimation of abilities, but stand by assist to alter tasks.
- Requires stand by assist to respond to other peoples' needs and feelings and utilize appropriate social behaviors.
- Depression, irritability, decreased frustration tolerance.

Level 10:
**Purposeful-
Appropriate**

- Appropriate estimation of abilities.
- Appropriately responds to other peoples' needs and feelings.
- Depression may still occur in intervals.
- Increased likelihood for irritability and frustration when under stress.
- Consistent appropriate social behaviors.

Source:

Hagen, C. (1998). *The Rancho levels of cognitive functioning: The revised levels* (3rd ed.). Retrieved on February 26, 2009, from http://www.rancho.org/patient_education/cognitive_levels.pdf

HANDOUT: Chart Review

Client's Name: _____

Anatomy

My client's injury occurred in the _____ region of the brain.

I can expect symptoms such as _____

_____.

Glasgow Coma Scale

Based on a chart review of my client's past medical history in acute care,
_____ received a Glasgow coma score of _____.

Rancho Levels of Cognitive Functioning

My client was functioning at a Level ____ when he/she was first admitted to the hospital. My client's initial level of functioning was based on the following signs:

-
-
-

My client is currently functioning at a Level ____ based on the following signs:

-
-
-

A decorative graphic featuring three sets of concentric blue circles of varying sizes. Two sets are in the upper right quadrant, and one is in the lower right quadrant. Thin blue lines intersect diagonally across the page, creating a geometric design.

Psychosocial Symptoms

Behavioral and Psychosocial Symptoms of Pediatric Traumatic Brain Injury

This section provides important terminology associated with psychosocial symptoms of pediatric traumatic brain injury. Handouts and information are provided to assist you in documenting clients' behavioral reactions to various approaches, as well as track clients' responses to behavioral management techniques.

Important Psychosocial Terminology

Affect: “Observed expression of emotion, possibly inconsistent with the patient’s description of emotion” (Sadock & Sadock, 2004, p. 26).

Demotivational Syndrome: Decreased interest to initiate participation in previously enjoyed occupations. Associated with frontal lobe damage and depression (Phipps, 2005).

Disinhibition: Inability of the brain to suppress specific emotions or behaviors, resulting in an individual inappropriately reacting to a situation either behavioral or verbally. Associated with frontal lobe damage (Phipps, 2005).

Impulse Control: “Ability to resist an impulse, drive, or temptation to perform an action” (Sadock & Sadock, 2004, p. 27).

Labile Affect: “Rapid and abrupt changes in emotional feeling tone, unrelated to external stimuli” (Sadock & Sadock, 2004, p. 27).

Mood: “A pervasive and sustained emotion subjectively experienced and reported by a patient and observed by others; examples include depression, elation, and anger” (Sadock & Sadock, 2004, p. 27).

Perseveration: Sustained participation on one specific activity or behavior with difficulties shifting attention to a new activity or behavior (Phipps, 2005).

Sources:

Phipps, S. C. (2005). The cognitive, behavioral, and psychosocial sequelae of brain injury. In E. Cara, & A. MacRae (Eds.), *Psychosocial occupational therapy: A clinical practice* (2nd ed.) (pp. 394-422). Clifton Park, NY: Thomson Delmar Learning.

Sadock, B. J., & Sadock, V. A. (2004). Signs and symptoms in psychiatry. In B. J. Sadock, & V. A. Sadock (Eds.), *Kaplan & Sadock’s concise textbook of clinical psychiatry* (2nd ed.) (pp. 26-32). Philadelphia, PA: Lippincott Williams & Wilkins.

HANDOUT: Behavior Symptom Checklist

My client, _____, exhibits the following symptoms:

- ☐ Agitation
 - ☐ Decreased frustration tolerance
 - ☐ Restlessness
- ☐ Aggression
 - ☐ Verbal aggression
 - ☐ Physical aggression
- ☐ Disinhibition
 - ☐ Impulsive
 - ☐ Perseverates on actions
- ☐ Decreased Motivation
 - ☐ Decreased initiation
 - ☐ Signs of depression
- ☐ Emotions
 - ☐ Emotional lability
 - ☐ Flat affect
 - ☐ Increased affect

Supporting Documentation:

Source:

Phipps, S. C. (2005). The cognitive, behavioral, and psychosocial sequelae of brain injury. In E. Cara, & A. MacRae (Eds.), *Psychosocial occupational therapy: A clinical practice* (2nd ed.) (pp. 394-422). Clifton Park, NY: Thomson Delmar Learning.

HANDOUT: Psychosocial Symptom Checklist

My client, _____, exhibits the following symptoms:

- ☐ Changes in Personality
 - ☐ Egocentric behaviors
- ☐ Impaired Social Functioning
 - ☐ Difficulties using social skills
 - ☐ Turn-taking
 - ☐ Sharing
 - ☐ Initiating/maintaining a conversation
 - ☐ Difficulties with relationships
 - ☐ Isolated from peers
- ☐ Impaired Coping Skills
 - ☐ Maladaptive coping skills
- ☐ Decreased Self-Esteem/Impaired Self-Concept

Supporting Documentation:

Source:

Phipps, S. C. (2005). The cognitive, behavioral, and psychosocial sequelae of brain injury. In E. Cara, & A. MacRae (Eds.), *Psychosocial occupational therapy: A clinical practice* (2nd ed.) (pp. 394-422). Clifton Park, NY: Thomson Delmar Learning.

HANDOUT: Behavioral Management Chart

Client's Name: _____

Date				
Behavior(s)				
Antecedent Behavior(s)				
Behavioral Management Strategies				
Response to Behavioral Management Strategies				

**This is the authentic work of the authors of this clinical guide: Christen, M., & Hansmeier, B.*

A decorative graphic featuring three sets of concentric blue circles of varying sizes. Two sets are in the upper right, and one is in the lower right. Thin blue lines intersect diagonally across the page, creating a geometric pattern.

Occupational Therapy Practitioner's Role

Professional Responsibility in Addressing Psychosocial Symptoms

This section highlights the professional responsibility and need for occupational therapy practitioners to provide holistic care to pediatric clients after a traumatic brain injury. Evidence from journals is presented that highlights the need to address psychosocial issues throughout the therapeutic process in order to ensure that the client achieves the most successful occupational outcomes.

Occupational Therapy's Holistic Role for Pediatric Traumatic Brain Injury Practice

- In *OT Practice*, the needs of children and adolescents were cited as one of the top ten emerging practice areas in occupational therapy (Brachtesende, 2005).
- The Traumatic Brain Injury (TBI) Act of 2008 has prioritized pediatric TBI as a future national research priority (H. R. 1418, 110th Cong. §4, 2008).
- “Occupational therapy practitioners believe that occupations are multidimensional and complex. Engagement in occupation as the focus of occupational therapy intervention involves addressing both subjective (emotional and psychological) and objective (physically observable) aspects of performance. Occupational therapy practitioners understand engagement from this dual and holistic perspective and address all aspects of performance when providing interventions” (AOTA, 2008, p. 628).

Why Should Occupational Therapy Practitioners Address Psychosocial Issues with Pediatric Clients with a Traumatic Brain Injury?

- In a study by Luis and Mittenberg (2002), the authors reported that often pediatric clients and their family members do not receive adequate discharge supports, especially in relation to potential psychosocial problems, as education and follow-up care is limited.
- Despite the fact that children and adolescents frequently demonstrate psychosocial and behavioral issues following a traumatic brain injury (TBI), a majority of clients do not receive psychological and mental health services (Greenspan & MacKenzie, 2000; Hawley, 2004).
 - In a sample of 67 school-aged children, only 8.96% of school-aged children had received a psychological assessment, despite the fact that a significant majority of children were demonstrating behavioral problems that were affecting academic performance.
 - In a sample of 95 children and adolescents 5 to 15 years of age, only 15% had received mental health services, even though this was cited by parents as one of the highest unmet needs and 40% of children demonstrated significant behavioral issues (Greenspan & MacKenzie, 2000).
- In accordance with best standards of practice with pediatric clients, the families' concerns and goals should be incorporated into therapeutic services. In several recent studies, parents have reported social skills and social participation as being their primary concern about current and future performance following a TBI (Prigatano & Gray, 2007; Souza, Braga, Filho, & Dellatolas, 2007).
- As demands increase in a child/adolescent's life, psychosocial factors become more apparent. Prigatano and Gray (2008) concluded that no child with a moderate to severe TBI was judged to have made a complete recovery from his or her injury, whether physically or emotionally. Adaptations that are required to be made in a child's or adolescent's environment and lifestyle upon returning home, can lead to feelings of hopelessness, depression, and sadness. Preparing the child or adolescent for upcoming lifestyle demands by assisting them to identify coping skills can decrease these latter feelings.

How Do Psychosocial Issues Influence Occupational Performance?

Education

- In a study conducted by Hawley (2004), over 75% of the pediatric TBI population had maladaptive behavioral responses to situations, coupled with decreased academic performance. In some cases behavioral issues became so detrimental that children had to be expelled from the classroom due to decreased ability to manage feelings of anger, along with expressions of violence (Hawley, 2004).

Play and Leisure Exploration/Participation

- Children who sustain mild TBIs traditionally participate in levels of physical activity that are similar to before the injury. However, their perceived levels of confidence during engagement in these physical activities declined at 12 weeks after the initial insult (Gagnon, Swaine, Friedman, & Forget, 2005).

Social Participation

- Parents often report a significant concern about their child's decrease in friendships and decline in social skills after a TBI. Children with moderate to severe TBIs were found to typically have the fewest friends compared to those in the trauma control group who reported having the most friends (Prigatano & Gupta, 2006).
- In a study by Janusz, Kirkwood, Yeates, and Taylor (2002), children with TBIs had difficulties with social problem-solving during decision making situations due to immature reasoning and assessment skills. This thereby influences children's abilities to make friends and maintain existing friendships.

References

- American Occupational Therapy Association (AOTA) (2008). Occupational therapy practice framework: Domain and process (2nd ed.). *American Journal of Occupational Therapy*, 62, 625-683.
- Brachtesende, A. (2005). The Turnaround Is Here! [Electronic Version]. *OT Practice*, 23(1), 13-19.
- Gagnon, I., Swaine, B., Friedman, D., & Forget, R. (2005). Exploring children's self-efficacy related to physical activity performance after a mild traumatic brain injury. *Journal of Head Trauma Rehabilitation*, 20(5), 436-449.
- Greenspan, A. I., & MacKenzie, E. J. (2000). Use and need for post-acute services following paediatric head injury. *Brain Injury*, 14(5), 417-429.
- Hawley, C. A. (2004). Behaviour and school performance after brain injury. *Brain Injury*, 18(7), 645-659.
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- Luis, C. A., & Mittenberg, W. (2002). Mood and anxiety disorders following pediatric traumatic brain injury: A prospective study. *Journal of Clinical and Experimental Neuropsychology*, 24(3), 270-279.
- Prigatano, G. P., & Gray, J. A. (2007). Parental concerns and distress after paediatric traumatic brain injury: A qualitative study. *Brain Injury*, 21(7), 721-729.
- Prigatano, G. P., & Gray, J. (2008). Parental perspectives on recovery and social reintegration after pediatric traumatic brain injury. *Journal of Head Trauma Rehabilitation*, 23(6), 378-387.
- Prigatano, G. P., & Gupta, S. (2006). Friends after traumatic brain injury in children. *Journal of Head Trauma Rehabilitation*, 21(6), 505-513.
- Souza, L. M., Braga, L. W., Filho, G. N., & Dellatolas, G. (2007). Quality-of-life: Child and parent perspectives following severe traumatic brain injury. *Developmental Neurorehabilitation*, 10(1), 35-47.
- Traumatic Brain Injury Act of 2008, H. R. 1418, 110th Cong. §4 (2008).

The page features a decorative graphic consisting of several overlapping circles in various shades of blue. Two thin blue lines intersect diagonally across the page, one from the top-left towards the center and another from the top-right towards the center. The main title is in a large, bold, blue font, and the subtitle is in a smaller, regular, blue font.

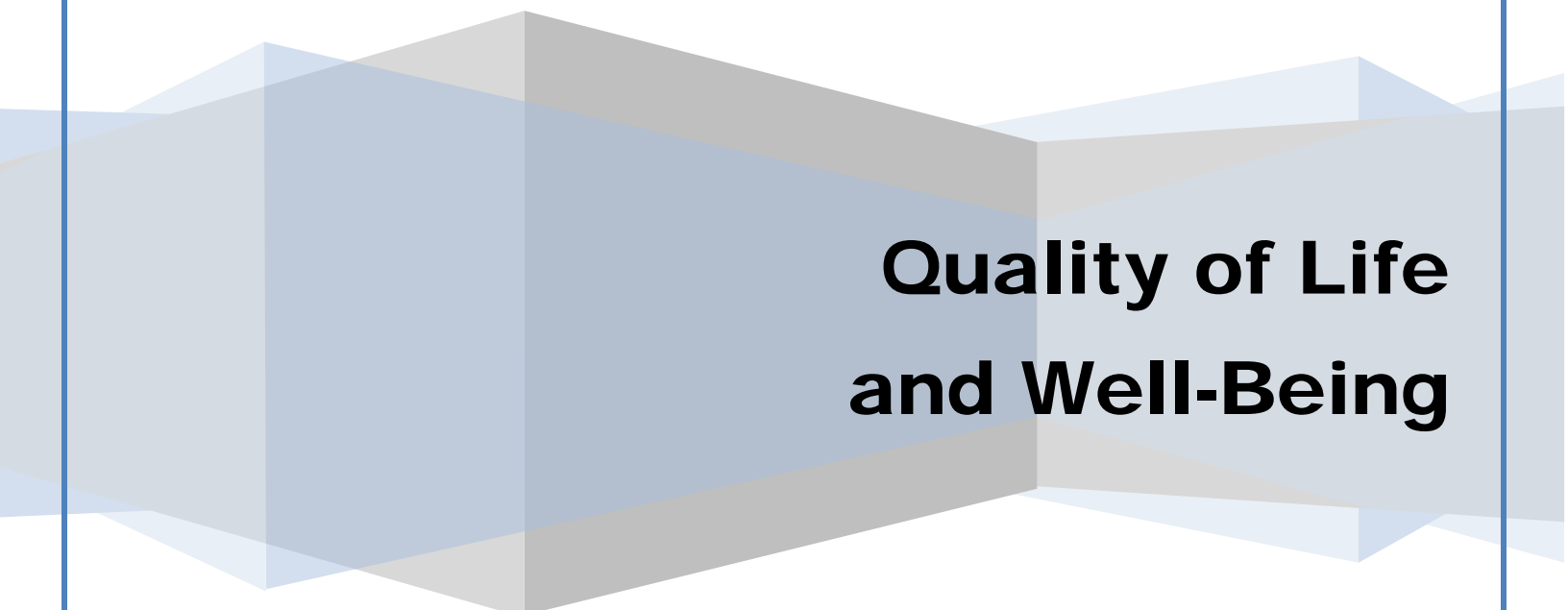
Occupational Therapy Assessments

Evaluating Psychosocial Deficits

This section provides you with an overview of client-centered assessment tools that can be used to evaluate a variety of psychosocial symptoms that may ensue after a pediatric traumatic brain injury. The assessments selected were found to be most relevant to clients' psychosocial needs following a traumatic brain injury and were appropriate for individuals between the ages of 5 and 18 years of age. This section is separated into four categories, including: quality of life and well-being, behavior management, emotional regulation, and stress management. Information regarding the format, setting, reliability/validity, and purchasing information have been included so you can select the assessment tools most applicable to your particular practice setting.

Assessments Related to Quality of Life and Well-Being

- Child Health Questionnaire
- Children's Assessment of Participation and Enjoyment
- Culture-Free Self-Esteem Inventories



Quality of Life
and Well-Being

Child Health Questionnaire (CHQ) (1999)

Authors: Jeanne M. Landgraf, L. Abetz, & J. E. Ware.

Purpose: Measures health in relation to physical functioning, psychosocial functioning, and overall well-being.

Format: Parent/proxy version and self-report (Self-report preferred). Two parent/proxy versions: CHQ-PF50, CHQ-PF28.

Population: 5 to 18 years. All diagnoses.

Setting: Clinical setting.

Examiner Qualifications and Training Required: Additional training for scoring.

Administration: 15 to 45 minutes for the CHQ-PF50 version. Five to 12 minutes (Average = 10 minutes) for the CHQ-PF28 version.

Materials: Instrument and manual with instructions. Self-scoring sheets by means of SPSS or SAS or scored by HealthAct for a fee.

Description: Fourteen physical and psychosocial concepts rated on a 4-point, ordinal scale based on the previous 4 weeks.

Reliability/Validity: Internal consistency established. Content, discriminant, and construct validity established.

Cultural Reference: Scores may apply more to children with illness than general population. Norms established from 391 parents across the country.

Cost: \$250 for a user manual.

Publisher:

HealthAct
Two International Place
16th Floor
Boston, MA 02110

Website: www.healthact.com

Additional Resources:

Healthact chq (2009). *CHQ: Child health questionnaire*. Retrieved on January 23, 2009, from <http://www.healthact.com/chq.html>

Letts, L., & Bosch, J. (2005). Measuring occupational performance in basic activities of daily living. In M. Law, C. Baum, & W. Dunn (Eds.), *Measuring occupational performance: Supporting best practice in occupational therapy* (2nd ed.) (pp. 179-247). Thorofare, NJ: SLACK, Inc.

Children's Assessment of Participation and Enjoyment (CAPE) (2004)

Authors: Gillian King, Ph.D., Mary Law, Ph.D., O.T. Reg (ONT), Susanne King, M.Sc., Patricia Hurley, B.A., Peter Rosenbaum, M.D., FRCP, Steven Hanna, Ph.D., Marilyn Kertoy, Ph.D., & Nancy Young, Ph.D.

Purpose: Measures daily participation and enjoyment in play and leisure activities or may also be used for intervention planning or as a tool to measure a child's progress.

Format: Self-administered or interview-assisted.

Population: 6 to 21 years with or without disabilities. Child or adolescent must be able to sort and categorize.

Setting: Clinical setting.

Examiner Qualifications and Training Required: Additional training recommended.

Administration: 30 to 45 minutes. 20 to 30 minutes for self-administration. 45 to 60 minutes for interview-assisted (Phase 1: 25 to 30 minutes; Phase 2: 20 to 30 minutes).

Materials: CAPE manual, record form, summary score sheet, and activity cards.

Description: A 55-item questionnaire designed to evaluate a child's participation in activities outside of the school environment. Five activity areas assessed include: recreational, physical, social, skill-based, and self-improvement.

Reliability/Validity: Adequate to good on test-retest reliability.

Cultural Relevance: Culture and gender neutral. Spanish version available.

Cost: \$116 for a CAPE/Preferences for Activities of Children (PAC) kit (Manual, record forms, summary score sheets, and activity cards).

Publisher:

Psychological Corporation, Skill Builders Division
555 Academic Court
San Antonio, TX 78204

Phone number: 1-800-228-0752

Website: <http://pearsonassess.com>

Additional Resources:

Connolly, K., Law, M., & MacGuire, B. (2005). Measuring leisure performance. In M. Law, C. Baum, & W. Dunn (Eds.), *Measuring occupational performance: Supporting best practice in occupational therapy* (2nd ed.) (pp. 249-275). Thorofare, NJ: SLACK, Inc.

Pearson Education, Inc. (2009). *Children's assessment of participation and enjoyment (CAPE) and preferences for activities of children (PAC)*. Retrieved on January 23, 2009, from <http://pearsonassess.com/HAIWEB/Cultures/enus/Productdetail.htm?Pid=076-1606-432&Mode=summary>

Culture-Free Self-Esteem Inventories (3rd ed.) (CFSEI- 3) (2002)

Author: James Battle.

Purpose: Assesses self-esteem.

Format: Norm-referenced self-report.

Population: 6 to 18 years, 11 months.

Setting: Quiet environment. Individual or group settings.

Examiner Qualifications and Training Required: N/A

Administration: 10 to 15 minutes.

Materials: Manual, age-related examiner record and student response forms (primary, intermediate, adolescent), writing utensil.

Description: Items answered in a yes or no format based on four scales, including: academic, general, parental/home, and social.

Reliability/Validity: Strong internal consistency. Content, criterion, and construct validity in the process of being established.

Cultural Reference: Research with seven cultures used to test reliability and validity.

Cost: \$200 for a kit (Manual, 50 Primary Examiner/Record Forms, 50 Intermediate Profile/Scoring Forms, 50 Intermediate Student Response Forms, 50 Adolescent Profile/Scoring Forms, and 50 Adolescent Student Response Forms)

Publisher:

PRO-ED

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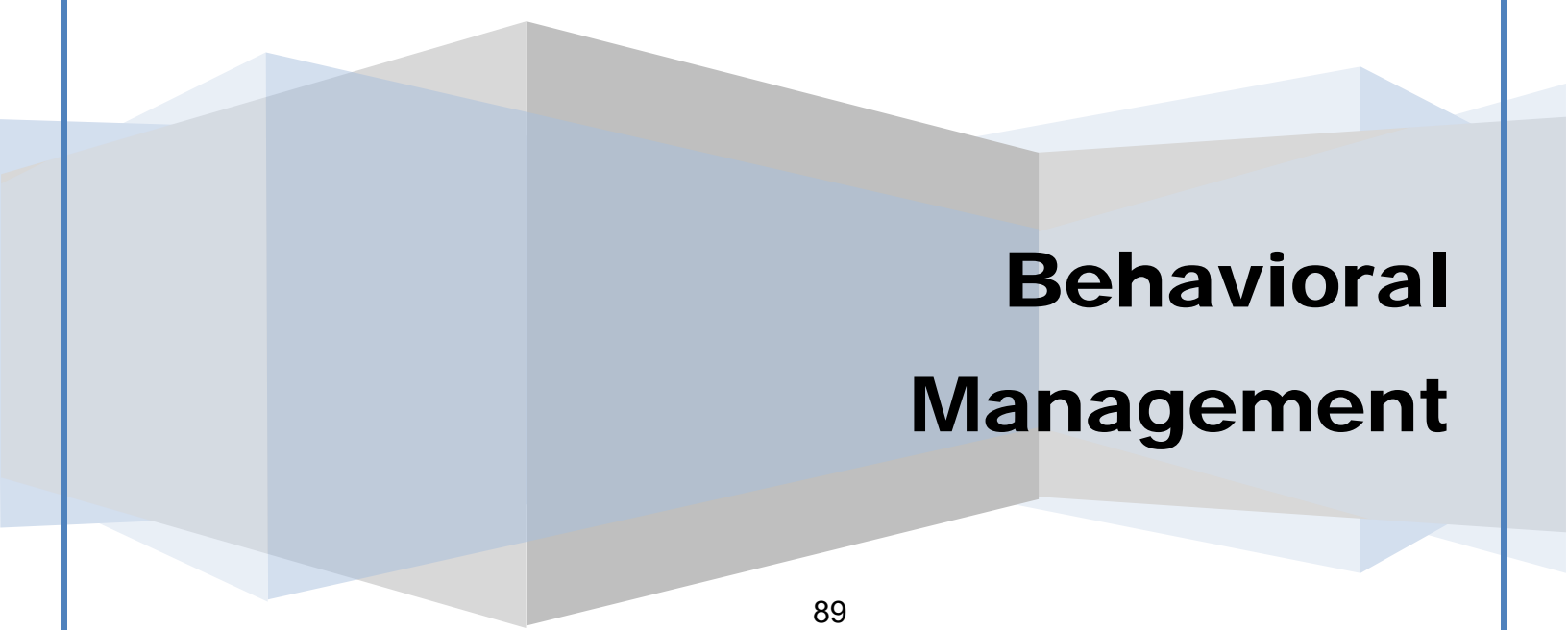
Additional Resources:

Cooke, D. M., & Finkelstein Kline, N. (2007). Assessment of process skills and mental functions. In E. Asher (Ed.), *Occupational therapy assessment tools: An annotated index* (3rd ed.) (pp. 489-614). Bethesda, MD: AOTA Press.

Pro-Ed, Incorporated (2009). *Behavioral and emotional disorders: Self-concept: CFSEI-3: Culture Free Self-Esteem Inventories - Third Edition*. Retrieved on January 23, 2009, from <http://www.proedinc.com/customer/ProductView.aspx?ID=2270&sSearchWords=>

Assessments Related to Behavioral Management

- Aggression Questionnaire
- Burks Behavior Rating Scales
- Child Behavior Checklist
- Draw a Person
- Student Behavior Survey



Behavioral
Management

Aggression Questionnaire (AQ) (2005)

Authors: Arnold H. Buss, Ph.D. & W. L. Warren, Ph.D.

Purpose: Assesses aggression to aid in intervention planning, outcome measurements, and research.

Format: Self-report.

Population: 9 to 88 years. Must have at least a third-grade reading level.

Setting: Academic, clinical, or prison settings.

Examiner Qualifications and Training Required: Master's degree.

Administration: 10 minutes. Scoring 10 minutes (manual or computer scoring).

Materials: Manual, score sheet, writing utensil.

Description: Thirty-four statements answered on a 5-point Likert scale. Addresses physical aggression, verbal aggression, anger, hostility, and indirect aggression.

Reliability/Validity: Strong internal consistency. Test-retest reliability, concurrent validity, and discriminant validity established.

Cultural Reference: N/A

Cost: \$99.00 for a kit (25 AutoScore™ forms, answer forms, and manual).

Publisher:

Western Psychological Services
12031 Wilshire Boulevard
Los Angeles, CA 90025-1251

Telephone: 800-648-8857

Fax: 310-478-7838

Email: help@wpspublish.com

Web site: www.wpspublish.com

Additional Resources:

Martin, L. M. (2007). Assessments of social and interaction skills. In E. Asher (Ed.), *Occupational therapy assessment tools: An annotated index* (3rd ed.) (pp. 455-488). Bethesda, MD: AOTA Press.

Western Psychological Services (WPS) (2008). *Products: Child and adolescent clinical: Aggression Questionnaire (AQ)*. Retrieved on January 23, 2009, from http://portal.wpspublish.com/portal/page?_pageid=53,70400&_dad=portal&_schema=PORTAL

Burks Behavior Rating Scales (2nd ed.) (BBRS- 2) (2006)

Authors: Harold F. Burks, Ph.D.

Purpose: Assesses problem behaviors and adjustment. Used for evaluation and intervention planning, parent education, and identification of at risk children and adolescents.

Format: Parent and/or teacher questionnaire.

Population: 4 to 18 years.

Setting: School. Feasible in other settings.

Examiner Qualifications and Training Required: N/A

Administration: 10 to 15 minutes.

Materials: Manual, AutoScore™ form, writing utensil.

Description: One-hundred questions answered with a 5-point Likert Scale. Based on seven categories, including: disruptive behavior, attention/impulse control, emotional difficulties, social withdrawal, physical and ability deficits, and decreased self-confidence.

Reliability/Validity: Strong internal consistency. Content and concurrent validity established.

Cultural Reference: N/A

Cost: \$105.00 for a kit (25 Parent AutoScore™ forms, 25 Teacher AutoScore™ forms, and manual).

Publisher:

Western Psychological Services
12031 Wilshire Boulevard
Los Angeles, CA 90025-1251

Telephone: 800-648-8857

Fax: 310-478-7838

Email: help@wpspublish.com

Web site: www.wpspublish.com

Additional Resources:

Martin, L. M.. (2007). Assessments of social and interaction skills. In E. Asher (Ed.), *Occupational therapy assessment tools: An annotated index* (3rd ed.) (pp. 455-488). Bethesda, MD: AOTA Press.

Western Psychological Services (WPS) (2008). *Products: School psychology/special education/child development: Burks Behavior Rating Scales, Second Edition (BBRS-2)*. Retrieved on January 23, 2009, from http://portal.wpspublish.com/portal/page?_pageid=53,70127&_dad=portal&_schema=PORTAL

Child Behavior Checklist (CBCL) (2001)

Authors: Thomas M. Achenbach.

Purpose: Assesses a child's social functioning skills and behavioral issues. Also measures child's behavior over time post-treatment. More specifically, assesses a child's internalizing (i.e. anxiety, depression, and over-controlled) as well as externalizing (i.e. aggression, hyperactive, defiant, and under-controlled) behaviors.

Format: Standardized. Questionnaire given by parent or administrator interviewer.

Population: 6 to 18 years.

Setting: Clinical or school setting.

Examiner Qualifications and Training Required: Master's degree.

Administration: 15 to 20 minutes.

Materials: Manual, paper questionnaire, writing utensil.

Description: One-hundred and eighteen behavioral items measured on 3-point Likert Scale. Parents respond to 20 questions regarding the frequency and quality of leisure engagement, social participation, and family / school functioning.

Reliability/Validity: Test-rest and internal consistency established. Content, criterion, and construct validity established.

Cultural Reference: Multicultural Supplement and Guide available. Three sets of normative samples. Forms translated in 80 different languages. Multicultural options included in kit.

Cost: \$460 for a School-Age Scoring Module Kit--CD-ROM (School-Age/Youth Self-Report Scoring, Manual, Behavior Checklists, Teacher's Report Forms, and Youth Self-report Forms for Ages 11-18).

Publisher:

Achenbach System of Empirically Based Assessment / Research Center for
Children, Youth and Families
1 South Prospect Street,
St. Joseph's Wing (3rd Floor, Room# 3207)
Burlington, VT 05401

Telephone: 802-656-5130

Fax Number: 802-656-5131

E-mail (for orders and inquiries): cbcl@uvm.edu

E-mail (for technical support): cbcltech@uvm.edu

Website: <http://www.aseba.org/index.html>

Additional Resource:

Achenbach, T. M. (2009). *Achenbach system of empirically based assessments: Products: Child Behavior Checklist for ages 6-18. (CBCL/6-18)*. Retrieved on January 23, 2009, from <http://www.aseba.org/products/cbcl6-18.html>

Draw a Person: Screening Procedure for Emotionally Disturbed (DAP:SPED) (1991)

Authors: Jack A. Naglieri, Timothy J. McNeish, & Achilles N. Bardos.

Purpose: Screening tool. Identifies emotional and behavioral issues.

Format: Projective drawing task.

Population: 6 to 17 years.

Setting: Distraction-free environment. Individual or group setting.

Examiner Qualifications and Training Required: N/A

Administration: 20 minutes.

Materials: Manual, record form, scoring templates, pencil with an eraser.

Description: The child or adolescent has five minutes for each drawing to create a man, woman, and him/herself. Drawings scored based on dimensions and content.

Reliability/Validity: Moderate internal consistency. Validity established.

Cultural Reference: Norms reflective of national demographics.

Cost: \$160.00 for a kit (25 Record Forms, 1 Set of Scoring Templates, Manual)

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Web: www.proedinc.com

Additional Resources:

Cooke, D. M., & Finkelstein Kline, N. (2007). Assessment of process skills and mental functions. In E. Asher (Ed.), *Occupational therapy assessment tools: An annotated index* (3rd ed.) (pp. 489-614). Bethesda, MD: AOTA Press.

Pro-Ed, Incorporated (2009). *Behavioral and emotional disorders: Behavior: Draw A Person: Screening Procedure for Emotional Disturbance (DAP:SPED)*.

Retrieved on January 23, 2009, from <http://www.proedinc.com/customer/productView.aspx?ID=658>

Student Behavior Survey (SBS) (2000)

Authors: David Lachar, Ph.D., Sabine A. Wingenfeld, Ph.D., Rex B. Kline, Ph.D., & Christian P. Gruber, Ph.D.

Purpose: Provides perspective on a child's emotional and behavioral adjustment, academic resources, and social functioning in a school setting.

Format: Teaching-rating scale.

Population: 5 to 18 years.

Setting: School.

Examiner Qualifications and Training Required: N/A.

Administration: 15 to 20 minutes.

Materials: Manual, score sheet, and a pen.

Description: Classroom behaviors assessed using 102-item questions using a 4-point Likert scale based on three subscales, including: Academic resources, adjustment problems, and disruptive behaviors.

Reliability/Validity: Strong internal consistency and test-retest reliability. Moderate inter-rater reliability. Criterion validity established.

Cultural Reference: N/A

Cost: \$95.00 for a kit (25 AutoScore™ answer/profile forms, manual).

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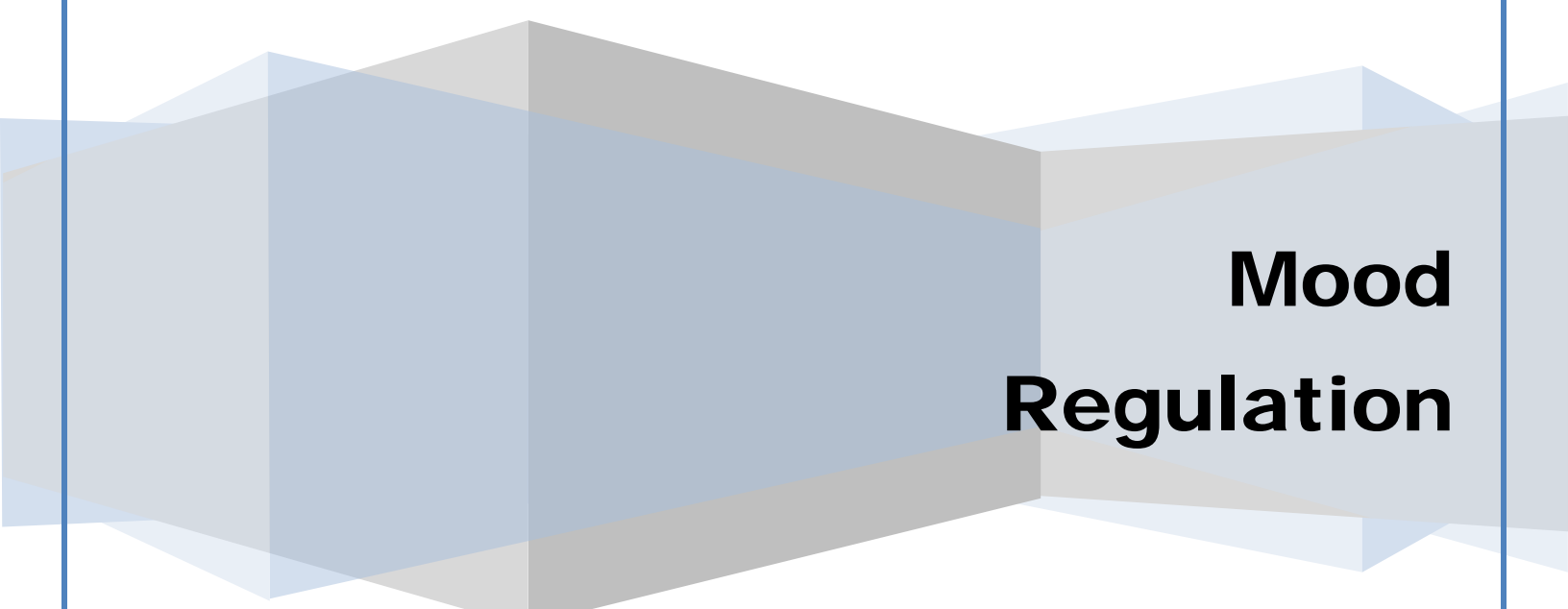
Additional Resources:

Martin, L. M. (2007). Assessments of social and interaction skills. In E. Asher (Ed.), *Occupational therapy assessment tools: An annotated index* (3rd ed.) (pp. 455-488). Bethesda, MD: AOTA Press.

Western Psychological Services (WPS) (2008). *Products: School psychology/special education/child development: Student Behavior Survey (SBS)*. Retrieved on January 23, 2009, from http://portal.wpspublish.com/portal/page?_pageid=53,70364&_dad=portal&_schema=PORTAL

Assessments Related to Mood Regulation

- Children's Depression Rating Scale, Revised
- Depression and Anxiety in Youth Scales
- Revised Children's Manifest Anxiety Scale
- Reynolds Adolescent Depression Scale



Mood
Regulation

Children's Depression Rating Scale, Revised (CDRS- R) (1996)

Authors: Elva O. Poznanski, M.D. & Hartmut B. Mokros, Ph.D.

Purpose: Screening tool. Assesses presence and severity of depression and treatment effectiveness over time.

Format: Semi-structured interview. Rating scale.

Population: 6 to 12 years.

Setting: Quiet environment.

Examiner Qualifications and Training Required: N/A

Administration: 20 to 30 minutes.

Materials: Kit (manual and administration booklet), paper, writing utensil.

Description: Seventeen symptoms indicative of depression are rated on a 7-point scale during the interview process.

Reliability/Validity: Strong test-retest reliability, internal consistency, inter-rater reliability. Construct validity and discriminant validity established.

Cultural Reference: N/A

Cost: \$90.75 for a kit (25 administration booklets, manual).

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Additional Resources:

Cooke, D. M., & Finkelstein Kline, N. (2007). Assessment of process skills and mental functions. In E. Asher (Ed.), *Occupational therapy assessment tools: An annotated index* (3rd ed.) (pp. 489-614). Bethesda, MD: AOTA Press.

Western Psychological Services (WPS) (2008). *Products: Child and adolescent clinical: Children's Depression Rating Scale, Revised (CDRS-R)*. Retrieved on January 23, 2009, from http://portal.wpspublish.com/portal/page?_pageid=53,69676&_dad=portal&_schema=PORTAL

Depression and Anxiety in Youth Scale (DAYS) (1994)

Authors: Phyllis L. Newcomer, Edna M. Barenbaum, & Brian R. Bryant.

Purpose: Assists in identifying depression and anxiety disorders.

Format: Norm-referenced true-false questionnaire and Likert-scale questionnaire.

Population: 6 to 19 years.

Setting: Clinical. Quiet environment.

Examiner Qualifications and Training Required: N/A

Administration: 20 to 30 minutes.

Materials: Manual, rating scales for student, teacher, and parent; profile/record forms, scoring keys, writing utensil.

Description: The student form has 22-items measured on a 4-point Likert scale. The teacher rating has 20-items and the parent rating has 28-items, both of which are measured using a true or false response format.

Reliability/Validity: Strong internal consistency. Strong to adequate test-retest reliability. Content validity and discriminate validity established. Criterion-validity moderate.

Cultural Reference: N/A

Cost: \$163 for a kit (Manual, Student Rating Scales, Teacher Rating Scales, Parent Rating Scales, Profile/Record Forms and Scoring Keys)

Publisher:

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Austin, TX 78757-6897

Telephone: 800-897-3202

FAX: 800-397-7633

E-mail: info@proedinc.com

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Additional Resources:

Cooke, D. M., & Finkelstein Kline, N. (2007). Assessment of process skills and mental functions. In E. Asher (Ed.), *Occupational therapy assessment tools: An annotated index* (3rd ed.) (pp. 489-614). Bethesda, MD: AOTA Press.

Pro-Ed, Incorporated (2009). *Behavioral and emotional disorders: Anxiety and depression: Depression and Anxiety in Youth Scales (DAYS)*. Retrieved on January 23, 2009, from [http://www.proedinc.com/customer/ProductView.aspx?ID=645&sSearch Words=Depression%20and%20anxiety%20youth%20scales](http://www.proedinc.com/customer/ProductView.aspx?ID=645&sSearch%20Words=Depression%20and%20anxiety%20youth%20scales)

Revised Children's Manifest Anxiety Scale (2nd ed.) (RCMAS-2) (2005)

Authors: Cecil R. Reynolds, Ph.D., & Bert O. Richmond, Ed.D.

Purpose: Measures the type and degree of anxiety that are experienced as a result of academic, social, or family problems.

Format: Self-report.

Population: 6 to 19 years.

Setting: School or clinical settings.

Administration: 10 to 15 minutes.

Materials: Manual, survey booklet, WPS AutoScore™ form, pencil.

Description: Forty-nine yes or no statements in the areas of physiological anxiety, worry, social anxiety, defensiveness, and inconsistent responding.

Cultural Reference: Ethnically diverse sample and norms. Available in Spanish.

Cost: \$99.50 for a kit (25 AutoScore™ forms, 1 audio CD, 1 manual)

Publisher:

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12031 Wilshire Boulevard
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Telephone: 800-648-8857

Fax: 310-478-7838

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Web site: www.wpspublish.com

Additional Resources:

D'Amico, M., & Mortera, M. H. (2007). Assessments of coping and adaptive behaviors. In E. Asher (Ed.), *Occupational therapy assessment tools: An annotated index* (3rd ed.) (pp. 633-671). Bethesda, MD: AOTA Press.

Western Psychological Services (WPS) (2008). *Products: Child and adolescent clinical: Revised Children's Manifest Anxiety Scale: Second Edition (RCMAS-2)*.

Retrieved on January 23, 2009, from http://portal.wpspublish.com/portal/page?_pageid=53,234661&_dad=portal&_schema=PORTAL

Reynolds Adolescent Depression Scale (2nd Ed.) (RADS- 2) (1987)

Author: William M. Reynolds, PhD

Purpose: Screens for signs and severity of depression.

Format: Self-report or rating scale.

Population: 11 to 20 years.

Setting: School or clinical setting. Quiet environment. Individual or group setting.

Examiner Qualifications and Training Requirements: Licensure in a health care profession. Additional training required.

Administration: 5 to 10 minutes.

Materials: Manual, test booklet, writing utensil, summary/profile form.

Description: Thirty-item scale measured on a 4-point Likert scale. Based on four scales, including: dysphoric mood, anhedonia/negative affect, negative self-evaluation, and somatic complaints.

Reliability/Validity: Strong test-retest reliability and internal consistency. Content, criterion, and construct validity established.

Cultural Reference: Utilized in 30 other countries. Written at a second-grade reading level.

Cost: \$158.00 for a kit (RADS-2 Professional Manual, 25 Hand-Scorable Test Booklets, and 25 Summary/Profile Forms)

Publisher:

Western Psychological Services
12031 Wilshire Boulevard
Los Angeles, CA 90025-1251

Telephone: 800-648-8857

Fax: 310-478-7838

Email: help@wpspublish.com

Web site: www.wpspublish.com

Additional Resources:

Cooke, D. M., & Finkelstein Kline, N. (2007). Assessment of process skills and mental functions. In E. Asher (Ed.), *Occupational therapy assessment tools: An annotated index* (3rd ed.) (pp. 489-614). Bethesda, MD: AOTA Press.

Western Psychological Services (WPS) (2008). *Products: Child and adolescent clinical: Reynolds Adolescent Depression Scale, Second Edition (RADS-2)*. Retrieved on January 23, 2009, from http://portal.wpspublish.com/portal/page?_pageid=53,69588&_dad=portal&_schema=PORTAL

Assessments Related to Stress Management

- Coping Inventory for Children
- General Self-Efficacy Scale
- Rhode Island Stress and Coping Inventory



Stress
Management

Coping Inventory for Children

Authors: Shirley Zeitlin.

Purpose: Measures coping skills.

Format: Parent or professional questionnaire.

Population: 3 to 16 years.

Setting: Clinical setting.

Examiner Qualifications and Training Required: N/A

Administration: Variations. (Average = 30 minutes).

Materials: Observation form, manual.

Description: Child's coping styles are assessed based on self-coping behaviors and adaptations made for coping with environmental demands.

Reliability/Validity: Inter-rater reliability and construct/content validity established.

Cultural Relevance: Takes into consideration context.

Cost: \$58.20 for a Starter Set (1 Manual, 20 Forms). \$26.75 for a Sample (1 Manual, 1 Form).

Publisher:

Scholastic Testing Services, Inc.
Administrative and Editorial Division
480 Meyer Road
Bensenville, Illinois 60106-1617

Phone number: 1-800-642-7887

Fax number: 1-800-766-8054

E-mail: N/A

Website: <http://www.ststesting.com/>

Additional Resources:

Edwards, D., & Baum, C. (2005). Occupational performance: Measuring the perspectives of others. In M. Law, C. Baum, & W. Dunn (Eds.), *Measuring occupational performance: Supporting best practice in occupational therapy* (2nd ed.) (pp. 93-105). Thorofare, NJ: SLACK, Inc.

Scholastic Testing Services, Inc. (2009). *Product index: Coping inventories: A measure of adaptive behavior, observation, and self-rated forms*. Retrieved on January 23, 2009, from <http://ststesting.com/COPI.html>

General Self-Efficacy Scale (GSES) (1979, 1992)

Authors: Ralf Schwarzer, & Matthias Jerusalem.

Purpose: Assesses self-efficacy in relation to coping with stress and adapting to life changes.

Format: Self-rating.

Population: 12 years to adulthood.

Setting: N/A

Examiner Qualifications and Training Required: N/A

Administration: < 10 minutes.

Materials: Item list, paper, writing utensil.

Description: Ten-item questionnaire using a 4-point Likert-scale with scores ranging from 10 to 40. Higher scores equate to greater self-efficacy.

Reliability/Validity: Moderate to strong internal consistency. Adequate criterion validity.

Cultural Reference: Reliability and validity based on a variety of cultures. Available in 29 languages. Developed in Germany.

Cost: Printing costs.

Publisher:

Prof. Dr. Ralf Schwarzer,
Freie Universität Berlin, Psychologie,
Habelschwerdter Allee 45,
14195 Berlin, Germany

Fax Number: +49 (30)838-55634

E-mail: health@zedat.fu-berlin.de

Website: <http://www.healthpsych.de/>

Additional Resources:

Cooke, D. M., & Finkelstein Kline, N. (2007). Assessment of process skills and mental functions. In E. Asher (Ed.), *Occupational therapy assessment tools: An annotated index* (3rd ed.) (pp. 489-614). Bethesda, MD: AOTA Press.

Schwarzer, R. (2008). *Health psychology at the Freie Universität Berlin, Germany: The general self-efficacy scale (GSE)*. Retrieved on January 23, 2009, from <http://userpage.fu-berlin.de/~health/engscal.htm>

Rhode Island Stress and Coping Inventory (RISCI) (1998)

Author: Joseph Fava.

Purpose: Assess stress and coping styles in order to develop appropriate goals and interventions.

Format: Checklist by means of self-report.

Population: 12 years to adulthood.

Setting: N/A

Administration: 5 to 10 minutes.

Materials: Checklist and writing utensil.

Description: Twelve-items regarding stress levels and utilization of coping skills in the last month. Measured on a 5-point Likert scale (1 = Never. 5 = Frequently).

Reliability/Validity: Internal consistency. Moderate construct and content validity.

Cultural Reference: N/A

Cost: N/A

Publisher:

E-mail: JFava@Lifespan.org

Additional Resource:

D'Amico, M., & Mortera, M. H. (2007). Assessments of coping and adaptive behaviors. In E. Asher (Ed.), *Occupational therapy assessment tools: An annotated index* (3rd ed.) (pp. 633-671). Bethesda, MD: AOTA Press.

A decorative graphic featuring three sets of concentric blue circles of varying sizes. Two sets are in the upper right quadrant, and one is in the lower right quadrant. Thin blue lines intersect diagonally across the page, creating a geometric pattern.

Occupational Therapy Goals

Writing Reimbursable Psychosocial Goals

This section will provide you with resources to ensure that your clients' goals are not only measurable and objective, but also client- and family-centered. Sample goals addressing psychosocial issues are included merely as examples as every intervention plan should uniquely reflect each client's individual needs.

Assessments to Assist with Goal Setting

- Child Occupational Self-Assessment
- Pediatric Activity Card Sort
- Perceived Efficacy and Goal Setting System



Goal Setting

Child Occupational Self-Assessment (COSA) (2005)

Authors: Jessica Keller, Anna Kafkes, Semonti Basu, Jeanne Federico, & Gary Kielhofner.

Purpose: Enhance implementation of client-centered practice by measuring perceived level of competence and meaning of client's daily occupations.

Format: Self-report.

Population: 8 to 17 years.

Setting: Clinical or school setting.

Examiner Qualifications and Training Required: N/A

Administration: N/A

Materials: Manual, writing utensil, assessment and summary form, cards from assessments if using the card sort).

Description: Twenty-five items assessing daily living activities, including self-care, school tasks, social activities, and family-related activities. The child uses a 4-point scale to rate how competent he/she feels in each area of occupational performance, as well as the importance/personal value of each activity. Visual symbols are used to mark responses. Two versions of this assessment are available, including: a card sort and checklist version.

Reliability/Validity: Reliability and validity established, but additional research needed.

Cultural Relevance: Available in Spanish.

Cost: \$35.00 for a kit (Manual, reproducible assessment forms, summary forms, card sort materials).

Publisher:

Model of Human Occupation Clearinghouse
Department of Occupational Therapy, University of Illinois

Website: <http://www.moho.uic.edu/>

Additional Resources:

Kramer, J., Kielhofner, G., & Forsyth, K. (2008). Assessments used with the model of human occupation. In B. Hemphill-Pearson (Ed.), *Assessments in occupational therapy mental health: An integrative approach* (2nd ed.) (pp. 159-184). Thorofare, NJ: SLACK Inc.

MOHO Clearinghouse: Model of Human Occupation (n.d.). *MOHO products: Assessments: Child Occupational Self Assessment (COSA), Version 2.1 2005*. Retrieved on January 23, 2009, from <http://www.moho.uic.edu/assess/cosa.html>

Pediatric Activity Card Sort (PACS) (2004)

Authors: Angela Mandich, Helene J. Polatajko, Linda Miller, & Carolyn Baum.

Purpose: Measures pediatric occupational engagement. Initiate goal-setting and interventions.

Format: Self-report.

Population: 6 to 12 years. Various diagnoses.

Setting: Clinical or school settings.

Examiner Qualifications and Training Required: Occupational therapist or certified occupational therapy assistant.

Administration: 15 to 20 minutes.

Materials: Personal care, school/productivity, hobbies/social, activities, and sports cards and scoring sheet.

Description: Cards are presented to the child or his/her parents. The occurrence and frequency of each activity are recorded. The five most important activities are rated by the child and five activities of future interest are noted.

Reliability/Validity: Reliability in the process of being established. Instrument validity. Limited evidence on other levels of validity.

Cultural Reference: Developed in Canada.

Cost: \$169.95

Publisher:

Canadian Occupational Therapy Association
CAOT publications ACE
Canadian Association of Occupational Therapists
CTTC Building
3400-1125 Colonel By Drive
Ottawa, Ontario K1S 5R1 Canada
Website: www.caot.ca/

Additional Resources:

Canadian Association of Occupational Therapists (2009). *Periodicals publications: On-line store: Alphabetical list of books: Paediatric Activity Card Sort (PACS)*. Retrieved on January 23, 2009, from https://www.caot.ca/ebusiness/source/orders/index.cfm?section=unknown&task=3&CATEGORY=PUBS&PRODUCT_TYPE=SALES&SKU=PUB-ML32&DESCRIPTION=&FindSpec=&CFTOKEN=76986742&continue=1&SEARCH_TYPE=find&StartRow=16&PageNum=4

Connolly, K., Law, M., & MacGuire, B. (2005). Measuring leisure performance. In M. Law, C. Baum, & W. Dunn (Eds.), *Measuring occupational performance: Supporting best practice in occupational therapy* (2nd ed.) (pp. 249-275). Thorofare, NJ: SLACK, Inc.

Perceived Efficacy and Goal Setting System (PEGS) (2004)

Authors: Cheryl Missiuna, Nancy Pollock, & Mary Law.

Purpose: Goal-setting.

Format: Interview and questionnaire.

Population: 5 to 10 years.

Setting: Clinical setting.

Examiner Qualifications and Training Required: N/A

Administration: 20 to 30 minutes.

Materials: PEGS Complete Kit ("User manual, cards, 25 Child Score Sheets, 25 Parent Questionnaires, and 25 Teacher Questionnaires").

Description: Pictures of daily activities are utilized to help clients determine their level of self-efficacy and establish goals. Parent and teacher questionnaires available.

Reliability/Validity: Excellent internal consistency, content validity, and construct validity. Adequate test-retest reliability and criterion validity.

Cultural Relevance: Testing materials available in English.

Cost: \$121.00 for a kit (Picture cards, score sheets, caregiver & teacher questionnaires).

Publisher:

Pearson Education, Inc.
19500 Bulverde Road
San Antonio, Texas 78259

Telephone: 1-800-211-8378

Fax: 1-800-232-1223

E-mail: N/A

Website: <http://pearsonassess.com/>

Additional Resources:

Letts, L., & Bosch, J. (2005). Measuring occupational performance using a client-centered perspective. In M. Law, C. Baum, & W. Dunn (Eds.), *Measuring occupational performance: Supporting best practice in occupational therapy* (2nd ed.) (pp. 81-91). Thorofare, NJ: SLACK, Inc.

Pearson Education, Inc. (2009). *Perceived efficacy and goal setting system (PEGS)*. Retrieved on January 23, 2009, from <http://pearsonassess.com/HAIWEB/Cultures/en-us/Productdetail.htm?Pid=076-1606-211&Mode=summary>

Formats for Occupational Therapy Goal Writing

- ABCD Format
- FEAST Format
- RHUMBA Format
- SMART Format



Goal Writing

ABCD Format

Audience

- Make the goal client-centered.

Behavior

- Use action words.

Conditions

- How much assistance or cueing will the patient need to complete the task?
- Are any modifications needed to assist the client during occupational performance?
 - Example: assistive technology

Degree

- Make the degree measurable.
 - How many?
 - What percent?
 - What degree?
- Use specific time frames that are realistic.
- Goals must relate to occupational performance.

Source:

Sames, K. M. (2005). Goal writing. In K. M. Sames (Ed.), *Documenting occupational therapy practice* (pp. 79-93). Upper Saddle River, NJ: PEARSON Prentice Hall.

FEAST Format

Function

- Primary focus of each goal.
- Address areas of occupation.

Expectation

- “The client will....”

Action

- Use action words.

Specific Conditions

- Level of assistance.
- What conditional factors are needed for the client to accomplish the goal?
- More than one condition can be listed per goal.

Timeline

- When can the client realistically accomplish this goal?
- Be specific.
 - Specific date.
 - Specific time frame (days, weeks, months).
 - Specific number of intervention sessions.

Sources:

Borcherding, S. (2005). Writing functional and measurable goals and objectives. In S. Borcherding (Ed.), *Documenting manual for writing SOAP notes in occupational therapy* (pp. 37-48). Thorofare, NJ: SLACK, Inc.

Sames, K. M. (2005). Goal writing. In K. M. Sames (Ed.), *Documenting occupational therapy practice* (pp. 79-93). Upper Saddle River, NJ: PEARSON Prentice Hall.

RHUMBA Format

Relevant/Relates

- Make the goal client-centered.

How Long

- Use action words.

Understandable

- How much assistance or cueing will the client need to complete the task?
- Are any modifications needed to assist the client during occupational performance? (Example: assistive technology).

Measurable

- Make the degree measurable.
 - How many?
 - What percent?
 - What degree?
- Use specific time frames that are realistic and relate to occupational performance.

Behavioral

- Observable behavior. Not subjective.

Achievable

- Reasonable for the client to achieve in the time frame.
- Takes in to consideration client diagnosis, current level of functioning, frequency/ duration of services, and environmental facilitators and barriers.

Source:

Sames, K. M. (2005). Goal writing. In K. M. Sames (Ed.), *Documenting occupational therapy practice* (pp. 79-93). Upper Saddle River, NJ: PEARSON Prentice Hall.

SMART Format

Significant/Simple

- Goals are client-centered.

Measurable

- Specific end goal.
- How much improvement does the client need to make?

Achievable

- Can the client achieve the goal in allotted time frame?

Relates

- Linked to the client's deficits in occupational performance.
- Short-term and long-term goals are complimentary.

Time-Limited

- Specified time frame.

Source:

Sames, K. M. (2005). Goal writing. In K. M. Sames (Ed.), *Documenting occupational therapy practice* (pp. 79-93). Upper Saddle River, NJ: PEARSON Prentice Hall.

Sample Occupational Therapy Psychosocial Goals

- Behavioral Management
- Social Skills
- Self-Esteem/Self-Efficacy



Sample Goals

Sample Goals to Address Psychosocial Needs in a Rehabilitation Setting

NOTE: These are merely examples of potentially reimbursable psychosocial goals. You will need to seek coverage potential for your setting and its third-party reimbursement. Adapt these goals to refer to clients' specific skills and time frame that you are addressing in the therapeutic context.

Behavioral Management

- 1.) The pediatric client will appropriately verbalize at least once during the course of the intervention session when he/she becomes frustrated due to his/her inability to independently complete a task.
- 2.) The pediatric client will verbalize one anger management strategy to use when he/she becomes frustrated during a self-care task that he/she finds challenging.

Social Skills

- 1.) During a play activity to increase fine motor skills, the pediatric client will demonstrate appropriate turn-taking with a peer 75% of the time.
- 2.) During a community mobility/reintegration session, the pediatric client will initiate at least one appropriate social interaction with another person.

Self-Esteem/Self-Efficacy

- 1.) At the end of a morning dressing session, the pediatric client will verbalize at least one part of the task performance that he/she did well.
- 2.) At the completion of an upper extremity (U/E) strengthening activity, the pediatric client will verbalize two feelings of confidence in performing play activities that require U/E range of motion, strength, and endurance.

A decorative graphic featuring three sets of concentric blue circles of varying sizes. Two sets are in the upper right, and one is in the lower right. Thin blue lines intersect diagonally across the page, creating a geometric design.

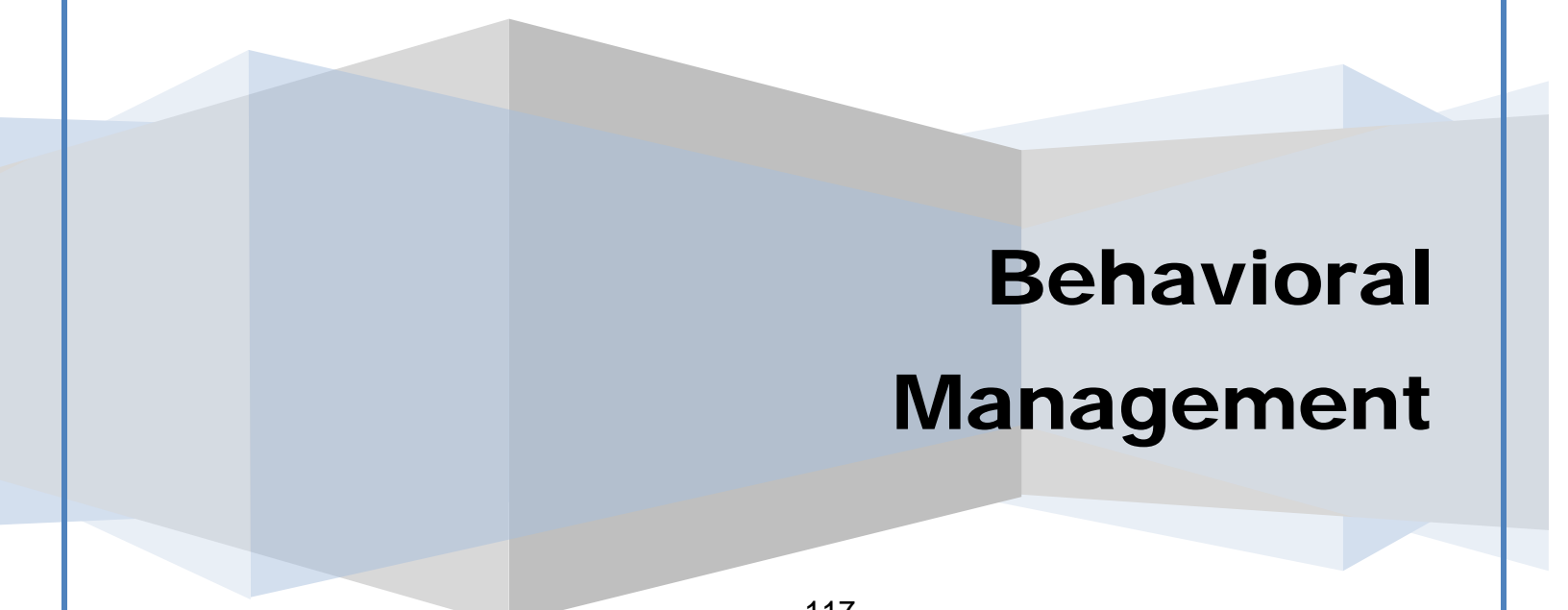
Occupational Therapy Psychosocial Interventions

Implementing Psychosocial Interventions

This section includes strategies and suggestions for developing interventions that incorporate psychosocial issues into the occupational therapy intervention implementation process. Based on the Occupational Adaptation frame of reference, the occupational therapy practitioner is provided with interventions to facilitate occupational readiness in regards to behavioral, emotional, and social skills. Interventions include: behavioral management techniques, anger management strategies, coping skills, social skills, self-esteem, and emotional regulation. By facilitating these psychosocial skills, the ultimate hope is that the client will provide adaptive responses in occupational activities.

Occupational Therapy Interventions: Behavioral Management

- Behavioral Management
- Anger Management
- Coping Skills



Behavioral
Management

Behavioral Management Principles

Shaping

- Reinforce positive behaviors that resemble the goal you are trying to achieve with the pediatric client.
- Do not reinforce behaviors that do not support occupational performance.
- Activity analysis skills are important in the shaping process. Break each activity into multiple steps.
 - You may have to continually reinforce each step of the activity until mastery is achieved.

Chaining

- Backward Chaining
 - Allow the pediatric client to complete the last step of a meaningful activity. This will allow the pediatric client to experience success, and hence increase self-esteem.
 - Once the last step to the activity has been achieved, allow the client to complete the previous step in addition to the last step. Continue grading the activity until the pediatric client is able to master all steps to the activity from beginning to end.
- Forward Chaining
 - Utilize the same principles as backward chaining. However, allow the pediatric client to complete the first step of the activity initially.

Modeling

- Serve as a role model. If you are addressing appropriate social skills make sure you demonstrate these skills (i.e., maintain eye contact, take turns, use manners, etc.).

Source:

Giroux Bruce, M. A., & Borg, B. (2002). Behavioral frame of reference – objective perspective. In M. A. Giroux Bruce, & B. Borg (Ed.), *Psychosocial frames of reference: Core for occupation-based practice* (pp.121-158). Thorofare, NJ: SLACK, Inc.

Behavioral Management

Preventing Behavioral Problems

Behavioral Strategy	Description / Therapeutic Benefit
Predictability	<ul style="list-style-type: none">• Provide consistency in your interactions with the client.• Structure activities and the environment in a consistent manner across sessions.• Allows the client to anticipate future demands, thereby decreasing anxiety and stress.
Clear Expectations	<ul style="list-style-type: none">• Decreases stress and anxiety.• Reduces behavioral issues.
External Support	<ul style="list-style-type: none">• Recognize when the client is having behavioral difficulty so you can intervene by providing increased structure and support.• Reduces the likelihood that the situation will escalate.
Communication	<ul style="list-style-type: none">• Match communication to the client's specific needs. For example, use pictures or drawings if the client has difficulty with global speech.• Enhanced communication decreases frustration and improves self-efficacy.
Just Right Challenge	<ul style="list-style-type: none">• Activity analysis.• If the activity is structured for success, the client will more like experience increased self-esteem levels.• Activities that are not difficult enough may result in behaviors as the result of boredom.• Activities that are too challenging can lead to frustration.

The chart is the authentic work of the authors of this clinical guide: Christen, M., & Hansmeier, B. Information in the chart was adapted from cited source.

Source:

Watling, R. (2005). Interventions for common behavior problems in children with disabilities [Electronic Version]. *OT Practice*, 10(15), 12-15.

Behavioral Management (continued)

Intervention Ideas

Intervention Idea	Description / Therapeutic Benefit
Environmental Adaptations	<ul style="list-style-type: none"> • Structure the physical environment in the same manner each session so the client can anticipate what to expect. • Provide a visual schedule of activities at the beginning of each session. Verbalize the length of each activity and what activity is coming next so the client can mentally prepare.
Sensory Stimuli	<ul style="list-style-type: none"> • Consider that psychosocial symptoms may be the result of sensory processing difficulties. • Provide opportunities for the client to meet their specific sensory needs.
Skill Building	<ul style="list-style-type: none"> • Behaviors can result from frustration of not being able to complete a motor or self-care task. • Be sure to recognize when behaviors are a result of decreased social skills. • Provide opportunities for play and communication that teach children and adolescent appropriate social skills.
Support	<ul style="list-style-type: none"> • Establish rapport with the client so he/she feels safe and comfortable in the therapeutic setting. • Provide opportunities to practice newly learned skills. • Provide consistent encouragement and positive feedback.
Social Stories	<ul style="list-style-type: none"> • "Social Stories are custom-written stories in which the child experiencing the problem is the main character. This story is written to describe the problem behavior, the situation in which the problem behavior occurs, and the appropriate behavior that is desired in the described situation" (Watling, 2005, ¶ 21). • Enhances social skills and decreases behavioral issues.

The chart is the authentic work of the authors of this clinical guide: Christen, M., & Hansmeier, B. Information in this chart was adapted from cited source.

Source:

Watling, R. (2005). Interventions for common behavior problems in children with disabilities [Electronic Version]. *OT Practice*, 10(15), 12-15.

Anger Management

It is first important for the client to understand what physical symptoms he/she experiences when feeling angry and how these emotions affect his/her thinking.

Here are a few suggested activities that can be used initially to help the client understand more about the emotional and physical effects of anger.

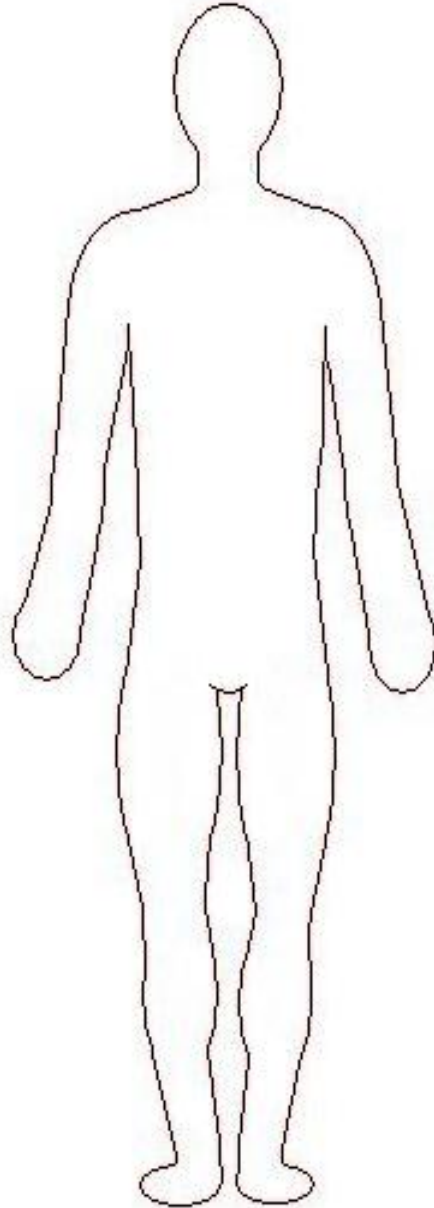
- **Role play:**
 - Use hypothetical situations that may trigger anger in a person. Have the client act out how he/she would react to the situation. Then work with the client on how he/she could handle the situation differently in the future.
 - Situations that trigger anger may be verbally discussed if the client does not feel comfortable role playing.
- **Coloring and/or labeling an outline of a human body:**
 - Use the worksheet on the next page, a blank outline of the human body, for this activity. Have the client describe physical symptoms he or she experiences when angry (i.e. sweating, headache, clenching fists, stomach ache, etc.). Also, talk about emotions he/she feels when angry (i.e., hurt, frustrated, etc.). The client can either draw or use descriptive words using the worksheet.
 - Alternatives to activity:
 - Trace the client's body on a large sheet of paper. Or, have the client trace a peer's body on a large sheet of paper. Then have them complete the remaining portion of the activity as stated above. Using this alternative method would allow the client to work on increasing fine motor skills and social skills while addressing psychosocial issues at the same time.
- **Modeling Behavior:**
 - During activities with pediatric clients always model calm behavior. This is important if you notice that the client may be escalating.

Source:

Maas, C., Mason, R., & Candler, C. (2008). "When I get mad...": An anger management and self-regulating group. *OT Practice*, 13(19), 9-14.

HANDOUT: Anger Management Worksheet

Instructions: Draw what happens to your body when you get angry.



**This is the authentic work of the authors of this clinical guide: Christen, M., & Hansmeier, B.*

HANDOUT: Coping Skills Worksheet for Children

My name: _____

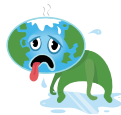
I get angry when: (check all that apply)

- ☐ I can't do something that I wanted to do.
- ☐ I don't get along with my brothers or sisters.
- ☐ Someone picks on me or makes fun of me.
- ☐ I feel like I can't do something well.
- ☐ I have to share something with someone else.
- ☐ Someone gets mad at me.
- ☐ There is a change in my schedule.
- ☐ I'm at school.
- ☐ I'm at home.
- ☐ Someone is better than me at an activity.

My physical symptoms of anger are: (circle all that apply)



Headache



Sweating



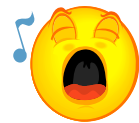
Face gets red & hot



Clench my fists



Racing heart



Dry throat & mouth

Some things that make me feel better when I'm angry are:

- 1) _____ 2) _____ 3) _____

Things that make me feel calm: (check all that apply)

- | | |
|---|---|
| <input type="checkbox"/> bouncing on a trampoline | <input type="checkbox"/> journaling |
| <input type="checkbox"/> squeezing a stress ball | <input type="checkbox"/> listening to music |
| <input type="checkbox"/> punching my pillow | <input type="checkbox"/> physical activity |
| <input type="checkbox"/> screaming into my pillow | <input type="checkbox"/> sleeping |
| <input type="checkbox"/> other: _____ | <input type="checkbox"/> other: _____ |

I will plan to use _____ next time I feel angry.

Choose one calming activity from list above.

**This is the authentic work of the authors of this clinical guide: Christen, M., & Hansmeier, B.*

HANDOUT: Coping Skills Worksheet for Adolescents

My Name: _____

Date: _____

1). I get angry when: _____

_____.

2). When I get angry, my body feels like: _____

_____.

3). When I'm angry, sometimes I get annoyed at people when they: _____

_____.

4). When I got angry I used to: _____

Afterwards, I felt: _____
_____.

5). Now, instead I can: _____
_____.

6). Activities I find relaxing that help to decrease my anger are: _____
_____.

7). One thing that I plan to do to calm myself down next time I feel angry is: _____

_____.

8). Someone that I can talk to about my feelings is: _____
Because: _____
_____.

**This is the authentic work of the authors of this clinical guide: Christen, M., & Hansmeier, B.*

Occupational Therapy Interventions: Social Skills

- Journal Activity for Children
- Journal Activity for Adolescents
- Involving Friends & Family in Therapy



Social Skills

HANDOUT: Journal Activity for Children

My Name: _____

Date	EXAMPLE			
I spent time with other kids....	At a friend's birthday party on Saturday afternoon.			
Did I join the other kids? (Circle yes or no)	YES NO			
I chose to participate because.... OR I chose not to participate because....	They were playing pin the tail on the donkey, and I like that game.			
I felt....	Happy, because I had fun playing the game.			

The chart is the authentic work of the authors of this clinical guide: Christen, M., & Hansmeier, B. Information in this chart was adapted from cited source.

Source:

Gutman, S. A., & Schindler, V. P. (2007). Supported education for adults and adolescents with psychiatric disabilities: Occupational therapy's role. *OT Practice*, 12(5), CE-1-CE-8.

HANDOUT: Journal Activity for Adolescents

Client's Name: _____

Date: _____

Today I participated in these social activities:

The reasons I chose to participate in these activities was because:

This is how I felt after participating in the activity with other people:

Today, I initiated the following social activities:

Example: Asking a friend to go to the high school basketball game.

*This handout is the authentic work of the authors of this clinical guide: Christen, M., & Hansmeier, B.
Information in this handout was adapted from cited source.*

Source:

Gutman, S. A., & Schindler, V. P. (2007). Supported education for adults and adolescents with psychiatric disabilities: Occupational therapy's role. *OT Practice*, 12(5), CE-1-CE-8.

Involving Clients' Friends & Family in Therapy

While it may be difficult to incorporate a group intervention with other clients in a physical disability setting, involving the client's friends and family members in treatment has been shown to be helpful. This approach assists children and adolescents in developing more positive relationships, improving interpersonal social skills, and increasing self-esteem.

Have siblings, parents, and friends (depending on the age of the client) participate in the OT sessions. Structure occupation-based or purposeful activities with the intent of working on the client's long-term goals, while building social skills. The group session structured below is adapted from Williamson and Dorman's, *Promoting Social Competence* (Williamson & Dorman, 2002).

- Introduction:
 - Take time initially to introduce the social skills topic or theme to the participants of the group (i.e., socially appropriate behaviors, sharing, taking turns, expressing needs, listening to others, etc.). This time is used to set the tone of the group and establish rules to ensure this is a positive team-building activity.
 - Set social skills goals that the group would like to accomplish during the activity (i.e., No one interrupts someone when he or she is speaking. Or, when someone feels frustrated, they will take a time out from the activity and rejoin the group when ready).
- Occupation-Based or Purposeful Activity:
 - The majority of the group session is spent on the activity to ensure the client is continuing to meet rehabilitation goals, while still enabling psychosocial needs to be met.
 - Activities can either be short-term tasks that are completed by the end of the group session, or they can be long-term and take two or more sessions to complete.
 - Short-term activity examples:
 - Board-games
 - Cooking
 - Jump Rope
 - Making bracelets
 - Parachute activities
 - Sports activities (i.e., tossing a ball, basketball, soccer, golf, etc.)
 - Long-term activity examples:
 - Creating a board game
 - Make greeting cards
 - Painting activities
 - Paper mâché projects

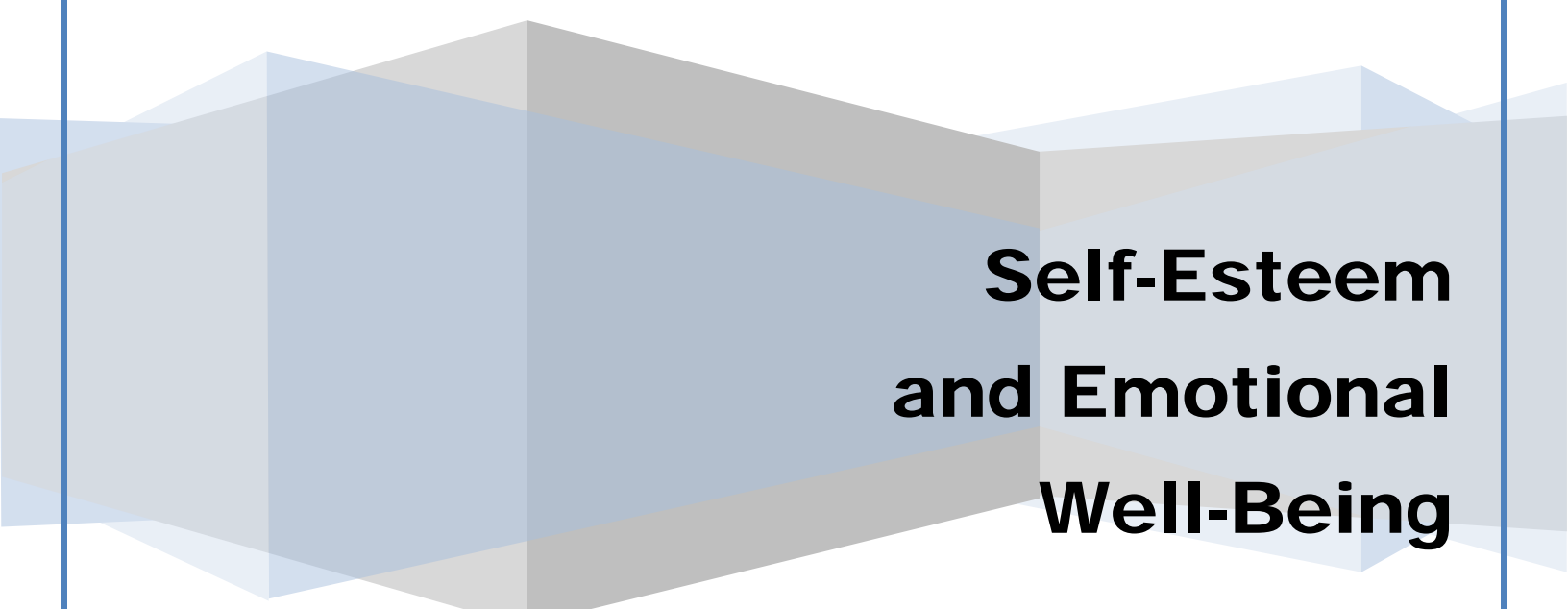
- Wrap-Up:
 - Come together as a group to refocus discussion of the social skills topic for the session. Ask group members to reflect on their feelings, behaviors, and thoughts during the activity that are related to social skills.
 - Example questions:
 - For children:
 - Use a list of five different emotions. Have pictures of the facial expression above the words: happy, excited, sad, frustrated, and angry. Ask each group member to select the emotion they felt during the activity.
 - Why do you think you felt (fill in the selected emotion) during the activity? If the child cannot answer, ask leading questions to understand why he or she was feeling a specific emotion (i.e., Were you frustrated because John was using the markers when you needed it?)
 - Help the child work through areas that were difficult during the activity by discussing different strategies to do next time that social skill is utilized.
 - For adolescents:
 - How did you feel you did with (fill in specific social skill) during today's activity?
 - If you could use one word to describe how you felt during the activity what would it be, and why?
 - What is one thing you could have done differently during today's activity?
 - What is one thing that you can do that will help you decrease your anger or stress?
 - Also, you can ask the client to do homework before the next session. Have the client work on a particular social skill that was difficult during the session. At the next session discuss what was done to work towards improvement of the specific skill.

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Guidelines for Incorporating Self- Esteem and Emotional Well-Being into Occupational Therapy



Self-Esteem
and Emotional
Well-Being

Incorporating Self-Esteem and Emotional Well-Being into Occupational Therapy

Following a traumatic brain injury (TBI), physical impairments, inappropriate social skills, loss of friends, or inability and/or perceived inability to do activities a child or adolescent once enjoyed are all factors that can have an impact on clients' self-esteem and emotional well-being. Depressive symptoms are common after moderate to severe TBIs in children and adolescents (Viguiet, Dellatolas, Gasquet, Martin, & Choquet, 2001). When a child faces difficulties in academic performance or in the home environment, and lacks appropriate social skills, his/her self-esteem and self-efficacy can be negatively impacted. Therefore, it is important to incorporate these aspects into activities to ensure these psychosocial areas are addressed. Below are a few guidelines and suggestions to help facilitate and increase clients' self-esteem and ability to address his/her emotional well-being.

Self-Esteem Guidelines:

- Grade activities to allow clients to be successful. Increase difficulty as needed to provide “just the right challenge”.
 - **Examples:**
 - Bean bag toss:** Using a large poster board, create squares with different drawings or words that represent various aspects of the client's life (i.e., school, home, extracurricular activities, chores, relationships- siblings, parents, and peers, or anything else that may be of importance). Have the client toss the bean bag onto the poster board and discuss the topic in which it lands on. For example, if the bean bag falls on the word school, have the child take about an accomplishment, his/her feelings of going back to school, what is going well, or how they might be struggling with relationships and homework. Positively reinforce the client's skills and abilities by sharing a positive aspect about the client in relation to the topic.
 - Rope climbing activity:** Using a vertical rope climb, have the client climb to the top and grab a piece of paper from a bucket or on a clip. Include different questions that may spark discussion regarding feelings, accomplishments, or anything that may help the client process emotional difficulties and increase self-esteem.

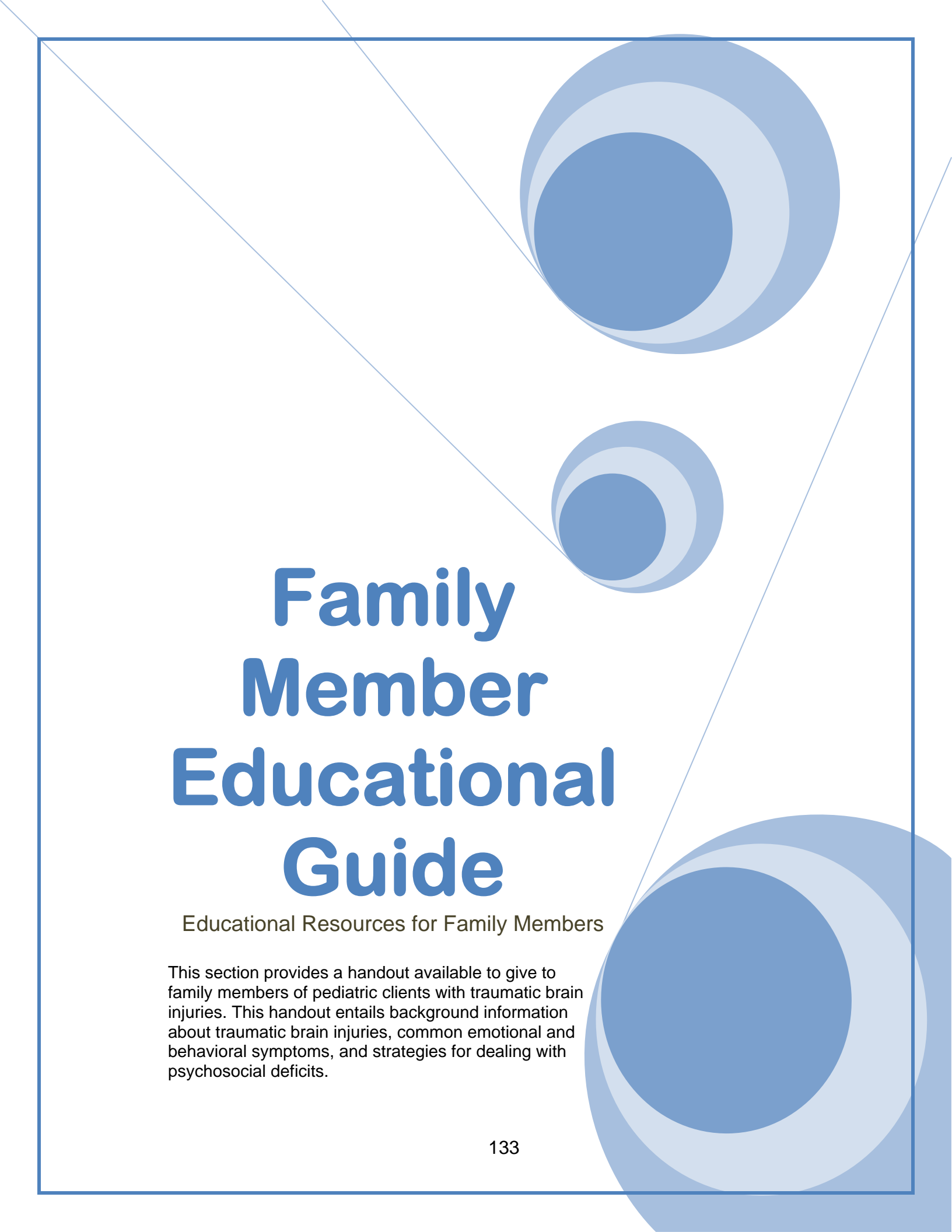
- Assist in helping the client to find activities of interest and skills that make him/ her unique.
 - Assessments that may be helpful in assessing areas of activity participation, interest, and enjoyment include tools available through the Pediatric Interest Profiles (Henry, 2000).
- Provide opportunities for the client to help others. This will help to reinforce the client's abilities. (i.e., Have the client assist in setting up an activity for another client. Allow the client to help clean up the activity).
- Assist the client in developing short term goals for each therapy session. This will allow the client to feel successful.

Emotional Well-Being Guidelines:

- Decrease negative self-talk when a client compares his/her current abilities to before the TBI. Reverse the statement into a more positive and encouraging statement. (i.e., when a child states, "I used to be really good at math, now I'm just dumb." Therapist can respond with, "You did well on your test today, and your grade is higher than last week.").
- Help a client to understand his/her feelings during activities. For example, if a client withdraws from an activity, ask the client to think about what he/she is feeling that made him/her stop the activity. Giving suggestions of feelings may be helpful (i.e., failure, hopeless, rejection, scared, etc.).
- Provide the client with self-regulating questions he or she can ask when becoming frustrated or upset, especially during challenging situations or unexpected changes in schedules. These questions will help the client weigh positives and negatives about the situation (i.e., How will I benefit from participating in this activity? What is one reason why you do not want to participate in this activity?).
- Social situations can be misread by pediatric clients with TBIs. During therapy sessions, help clients reframe the social interaction and rethink social situations that may be misinterpreted. This can help to limit negative emotional responses.

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- Judd, D., & Wilson, S. L. (2005). Psychotherapy with brain injury survivors: An investigation of the challenges encountered by clinicians and their modifications to therapeutic practice. *Brain Injury*, 19(6), 437-449.
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The page features a decorative graphic consisting of three concentric blue circles of varying sizes, positioned in the upper right and lower right areas. A thin blue line runs diagonally from the top left towards the center, and another thin blue line runs diagonally from the top right towards the center, intersecting the circles.

Family Member Educational Guide

Educational Resources for Family Members

This section provides a handout available to give to family members of pediatric clients with traumatic brain injuries. This handout entails background information about traumatic brain injuries, common emotional and behavioral symptoms, and strategies for dealing with psychosocial deficits.

Family Handout: Behavioral, Emotional, and Social, Issues after a Pediatric Traumatic Brain Injury

What is a traumatic brain injury (TBI)?

A TBI is an injury to the brain that can be caused by the head being jolted or hitting something. A brain injury can change how your child behaves, thinks, and/or responds to daily activities and interactions with others. A TBI can also change how your child learns and acts in school.

Traumatic brain injuries can be grouped into three different categories: mild, moderate, and severe injuries. This is based on the length of time that your child is unconsciousness, the length of the time your child experiences memory loss, and the presence of physical injuries.

Emotional and behavioral symptoms you may see in your child:

Following a brain injury, you may notice some changes in how your child is behaving, thinking, or interacting with others. Some children may experience emotional or behavioral problems after the injury, while others may not experience any at all. Depending on how severe the injury is (mild, moderate, or severe), you may notice the following behaviors and emotions in your child:

- Anger/aggression (physical or verbal)
- Anxiety (worrying a lot, hard to concentrate)
- Difficulty relating to others
- Fatigue/tiredness
- Feelings of sadness and frequently crying
- Gets frustrated easily
- Impulsivity (acts quickly without thinking)
- Inappropriate behavior (acting out)
- Irritability (difficulty controlling emotions)
- Lack of motivation
- Lowered self-esteem
- Personality changes (mood swings)
- Social inappropriateness
- Unable to deal with change
- Withdrawn from family and friends

Tips for managing your child's behavior at home:

- Have a set schedule or routine for your child. A written schedule of activities that are repeated day to day will help a child remember what is expected and what to do next. Your child may have difficulty dealing with change so a schedule will reduce the likelihood that your child becomes frustrated or acts out behaviorally.
- Let your child know 15 minutes ahead of time when they need to end an activity. This will help your child transition to a new activity. (i.e., "In 15 minutes we'll be cleaning up and starting _____ activity.")
- Avoid reacting with frustration to problems by removing yourself from the situation. Your frustration may make your child become angry, frustrated, or feel bad about themselves.
- Your child may have intense mood swings (i.e., One minute your child is laughing and the next minute he or she is crying or angry). Realize that this is part of the brain injury, and the behavior is not intended. As a family member, become a role model for your child by displaying calm behavior and not becoming overcritical of these behavioral outbursts.
- If your child becomes angry, offer ways to reduce his or her anger (i.e., punching or screaming into a pillow, journaling, or squeezing a stress ball).
- Give positive and encouraging feedback to your child to reinforce appropriate behavior.

Encouraging your child to participate in leisure and extra-curricular activities:

Participating in leisure activities at school and in the community may be beneficial to your child for a variety of emotional and social reasons. By participating in extra-curricular activities your child can benefit in the following ways:

- Improve ability to socialize appropriately with peers
- Improve communication skills
- Improve cooperation
- Increase self-esteem and confidence
- Increase ability to tolerate for change
- Reduce anxiety
- Reduce sadness and negative thinking

Be sure that your child achieves a balance between these activities and rest, in order to reduce the risk of increased stress, frustration, and behavioral problems.

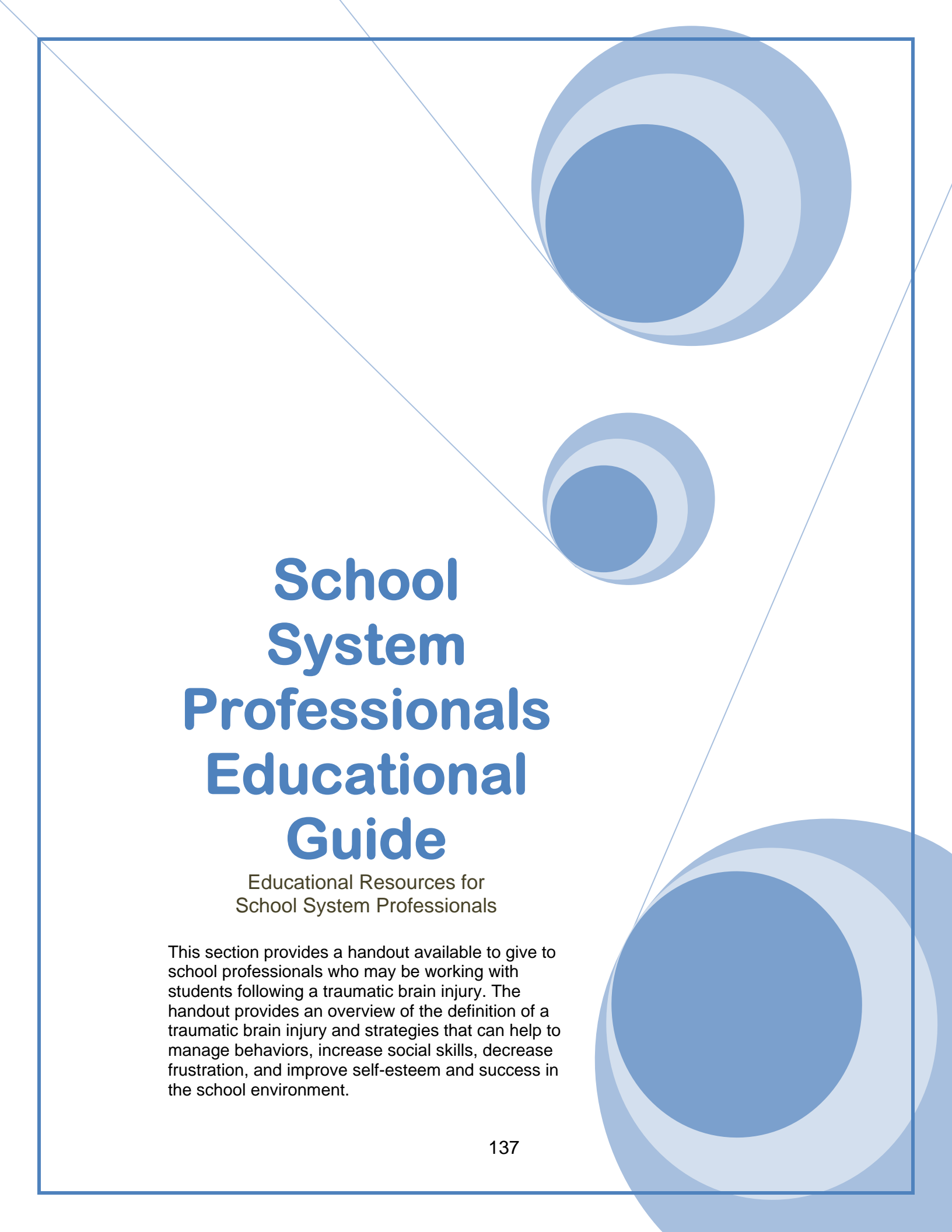
Taking care of yourself as a caregiver:

Since the behavioral, emotional, and social effects of a TBI can be long-term, it is important to make sure that you are taking care of yourself. Being a caregiver can be emotionally draining if you are not allowing yourself time to release stress and relax. The following are a few suggestions to ensure a smooth transition for you and your family upon your child's return home following a TBI:

- Make sure to get plenty of sleep (7 to 8 hours a night) and eat nutritious meals.
- Take time away from caring for your child without feeling guilty. Find things to do that you enjoy and that release stress (i.e., working out, going for walks, going shopping by yourself, being with friends, or reading a book).
- Don't be afraid to ask for help from others. Don't wait until you feel overwhelmed and exhausted. Be prepared by making a mental list of ways others can help you.
- Find a local support group within your community for families with children who have a TBI. You may find that being able to talk with other parents in similar situations can be comforting.
- Respite care, short term care that helps families take a break; can be provided in your home or within your community.
 - Visit The National Respite Locator Service website to find available services for you and your child within your state that match your needs.
 - **Website:** <http://chtop.org/ARCH.html>

Additional resources for more information and/or support:

- Brain Injury Association of America, Inc.:
 - Non-profit organization dedicated to people with brain injury and their families. Offers research, education, and advocacy programs through a national office, network of state affiliates, support groups, and a helpline.
 - **Phone Number:** 1-800-444-6443
 - **Website:** <http://www.biausa.org>
- National Dissemination Center for Children with Disabilities:
 - Call to find local parent support groups all around the United States
 - **Phone Number:** 1-800-695-0285
 - **Website:** <http://www.nichcy.org/>

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School System Professionals Educational Guide

Educational Resources for
School System Professionals

This section provides a handout available to give to school professionals who may be working with students following a traumatic brain injury. The handout provides an overview of the definition of a traumatic brain injury and strategies that can help to manage behaviors, increase social skills, decrease frustration, and improve self-esteem and success in the school environment.

Educator Handout: Strategies for Reducing Behavioral, Emotional, and Social Difficulties in the School Setting After a Traumatic Brain Injury

Definition of traumatic brain injury (TBI) according to Individuals with Disabilities Education Act (IDEA):

“...an acquired injury to the brain caused by an external physical force, resulting in total or partial functional disability or psychosocial impairment, or both, that adversely affects a child’s educational performance. Traumatic brain injury applies to open or closed head injuries resulting in impairments in one or more areas, such as cognition; language; memory; attention; reasoning; abstract thinking; judgment; problem-solving; sensory, perceptual, and motor abilities; psycho-social behavior; physical functions; information processing; and speech. Traumatic brain injury does not apply to brain injuries that are congenital or degenerative, or to brain injuries induced by birth trauma” [34 *Code of Federal Regulations* §300.8(c)(12)] (U.S. Department of Education, n.d.).

Preparing for the Student’s Return to School

- Find out as much as you can about the child’s injury and his or her present needs by talking with the child’s parents. Also, you can contact the child’s occupational therapist in the school or clinic setting.
- Learn about TBI by visiting websites, such as www.biusa.org or talking with healthcare professionals.

Helping the Student Succeed in Social Situations

- Offer encouragement by emphasizing the student’s strengths
- Following a TBI, children and adolescents may have difficulty making friends at school due to inappropriate social skills. Addressing social skills training with an entire class can help a student with a TBI develop appropriate social skills in a non-threatening manner.
- The inability to maintain previous friendships can cause decreased self-esteem. In turn, in some cases these leads to emotional issues and decreased academic performance.

Classroom Strategies for Managing Behavior

- Have consistent routines. This helps the student know what to expect. If the routine is going to change, let the student know ahead of time. (i.e., “Today, we will be having math class first and then reading.”)
 - Write these schedule changes on the board to help the student transition.
- Verbally alert the child of upcoming transitions to new subjects throughout the school day (i.e., “In 15 minutes we will be cleaning up and beginning math.”)
- Following a TBI, children and adolescents can quickly become tired. Allow the student to rest when needed will help to reduce frustration and behavioral outbursts.
- Reduce distractions within the classroom environment (i.e., loud noises, clutter in the classroom, etc.). Allow the student to have more time to finish tests and assignments, if established in the child’s Individualized Education Program (IEP). This will decrease frustration and behavioral issues.
- Give directions one step at a time. For tasks with many steps, it helps to give the student written directions. This will help to eliminate further frustration or anger.
- Show the student how to perform new tasks. Have the student demonstrate the skills back to you.


Communicating with Parents and Other School Professionals

- Consult with support personnel (occupational therapists, social workers, counselors, psychologists, and nurses). They can help you develop will strategies for teaching social skills and help the student return to “normal” routines in the classroom.
- Keep in regular contact with the child’s or adolescent’s guardians to give updates on the student’s progress (i.e., send a written note home, contact via phone, or talk to the parent in person).
 - Collaborate with the student’s guardians to find out what strategies at home are successful in managing anger and frustration.
 - Communication ensures that behavioral management strategies are consistent at home and school.

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References: Resources for Occupational Therapy Practitioners

Locating Additional Resources Regarding
Pediatric Traumatic Brain Injuries

This section is meant to provide you with additional resources including, websites, journals, and books. The resources are intended to give you more detailed information regarding the psychosocial implications of a pediatric traumatic brain injury.

References: Additional Resources for Occupational Therapy Practitioners Related to Pediatric Traumatic Brain Injury

- **Etiology and Incidence of Pediatric TBIs:**

Centers for Disease Control (2003). *Numbers and rates of traumatic brain injury-related emergency department visits, hospitalizations, and deaths, by age group, United States, 2003*. Retrieved on February 24, 2009, from http://www.cdc.gov/ncipc/pub-res/TBI_in_US_04/TBI Tables_2003.pdf

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- **Medical Terminology Related to TBIs:**

Brain Injury Association of America (n.d.). *Living with brain injury: Types*. Retrieved on February 16, 2009, from <http://www.biausa.org/education.htm#types>

Phipps, S. C. (2005). The cognitive, behavioral, and psychosocial sequelae of brain injury. In E. Cara, & A. MacRae (Eds.), *Psychosocial occupational therapy: A clinical practice* (2nd ed.) (pp. 394-422). Clifton Park, NY: Thomson Delmar Learning.

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- **Anatomy / Physiology of the Brain:**

Brain Injury Association of America (n.d.). *Living with brain injury: Brain maps*. Retrieved on February 16, 2009, from <http://www.biausa.org/education.htm#brainmaps>

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- **Neurologic Types of TBI:**

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- **Measures of Severity:**

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Hagen, C. (1998). *The Rancho levels of cognitive functioning: The revised levels* (3rd ed.). Retrieved on February 26, 2009, from http://www.rancho.org/patient_education/cognitive_levels.pdf

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- **Psychosocial Symptoms Related to TBIs:**

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- **Occupational Therapy Practitioners' Role in Psychosocial Issues:**

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- **Occupational Therapy Assessments:**

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- **Related to Behavior Management:**

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- **Related to Stress Management:**

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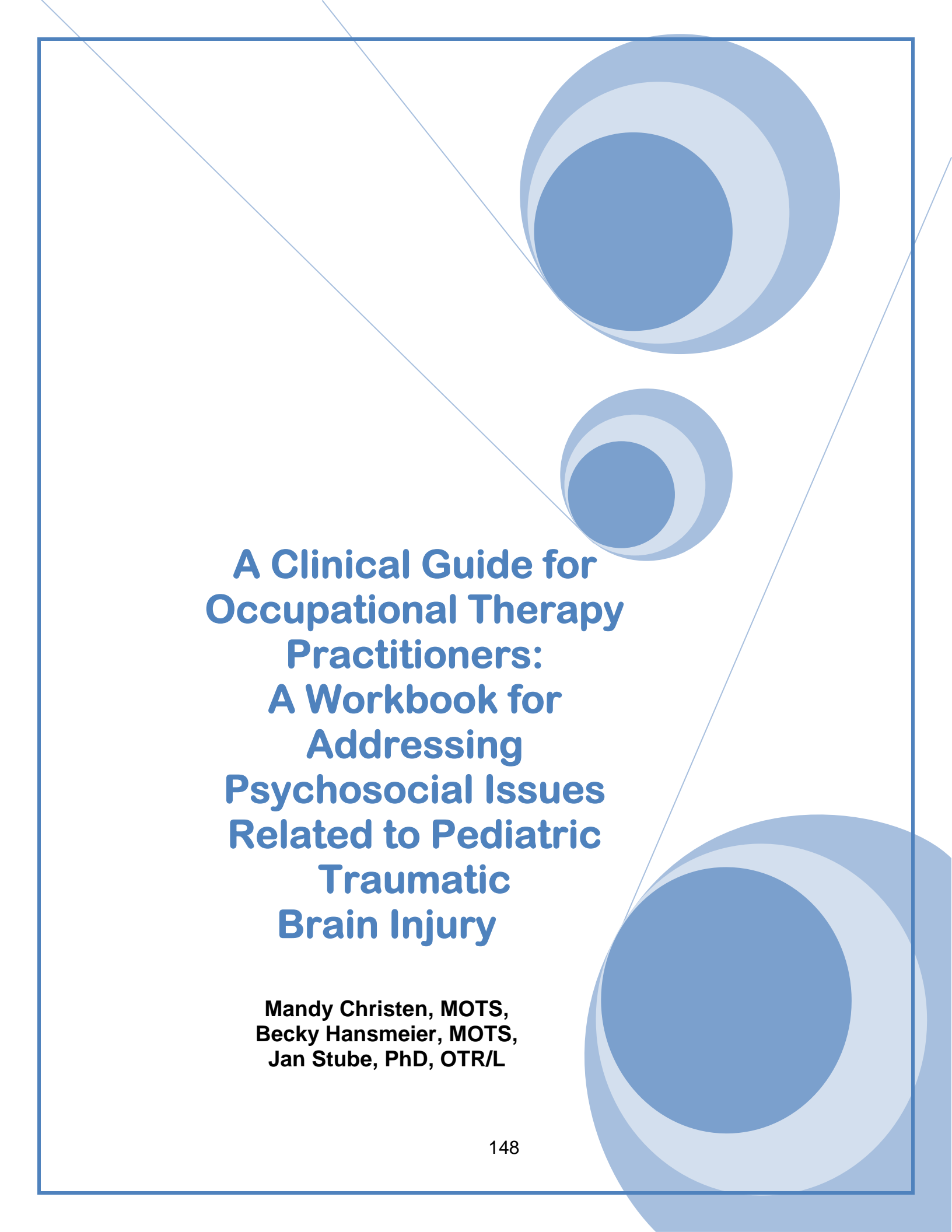
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A Clinical Guide for Occupational Therapy Practitioners: A Workbook for Addressing Psychosocial Issues Related to Pediatric Traumatic Brain Injury

**Mandy Christen, MOTS,
Becky Hansmeier, MOTS,
Jan Stube, PhD, OTR/L**

Introduction

This workbook is a supplemental tool to the clinical guide for occupational therapy (OT) practitioners. The clinical guide provided OT practitioners the tools to address the psychosocial issues experienced by pediatric clients with a traumatic brain injury (TBI). The clinical guide introduced a variety of psychosocial interventions to incorporate into the rehabilitative process. This workbook is intended to serve as an additional resource while providing therapy. The intention is that each pediatric client with a TBI will have an individual workbook to allow for client-centered care. The workbook can be used as a means to facilitate the therapeutic process during direct service delivery. Also, the workbook can serve as an educational tool to provide pediatric clients and their family members. This workbook can then be used in the pediatric client's home environment.

The intervention ideas and educational resources presented in the following pages are all included in the clinical guide. The author's intention in placing the interventions in individualized workbooks is to allow increased ease of implementation in a variety of inpatient and outpatient physical disabilities settings.

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HANDOUT: Chart Review

Client's Name: _____

Anatomy

My client's injury occurred in the _____ region of the brain.

I can expect symptoms such as _____

_____.

Glasgow Coma Scale

Based on a chart review of my client's past medical history in acute care,
_____ received a Glasgow coma score of _____.

Rancho Levels of Cognitive Functioning

My client was functioning at a Level ____ when he/she was first admitted to the hospital. My client's initial level of functioning was based on the following signs:

-
-
-

My client is currently functioning at a Level ____ based on the following signs:

-
-
-

HANDOUT: Behavior Symptom Checklist

My client, _____, exhibits the following symptoms:

- ☐ Agitation
 - ☐ Decreased frustration tolerance
 - ☐ Restlessness
- ☐ Aggression
 - ☐ Verbal aggression
 - ☐ Physical aggression
- ☐ Disinhibition
 - ☐ Impulsive
 - ☐ Perseverates on actions
- ☐ Decreased Motivation
 - ☐ Decreased initiation
 - ☐ Signs of depression
- ☐ Emotions
 - ☐ Emotional lability
 - ☐ Flat affect
 - ☐ Increased affect

Supporting Documentation:

Source:

Phipps, S. C. (2005). The cognitive, behavioral, and psychosocial sequelae of brain injury. In E. Cara, & A. MacRae (Eds.), *Psychosocial occupational therapy: A clinical practice* (2nd ed.) (pp. 394-422). Clifton Park, NY: Thomson Delmar Learning.

HANDOUT: Psychosocial Symptom Checklist

My client, _____, exhibits the following symptoms:

- ☐ Changes in Personality
 - ☐ Egocentric behaviors
- ☐ Impaired Social Functioning
 - ☐ Difficulties using social skills
 - ☐ Turn-taking
 - ☐ Sharing
 - ☐ Initiating/maintaining a conversation
 - ☐ Difficulties with relationships
 - ☐ Isolated from peers
- ☐ Impaired Coping Skills
 - ☐ Maladaptive coping skills
- ☐ Decreased Self-Esteem/Impaired Self-Concept

Supporting Documentation:

Source:

Phipps, S. C. (2005). The cognitive, behavioral, and psychosocial sequelae of brain injury. In E. Cara, & A. MacRae (Eds.), *Psychosocial occupational therapy: A clinical practice* (2nd ed.) (pp. 394-422). Clifton Park, NY: Thomson Delmar Learning.

HANDOUT: Behavioral Management Chart

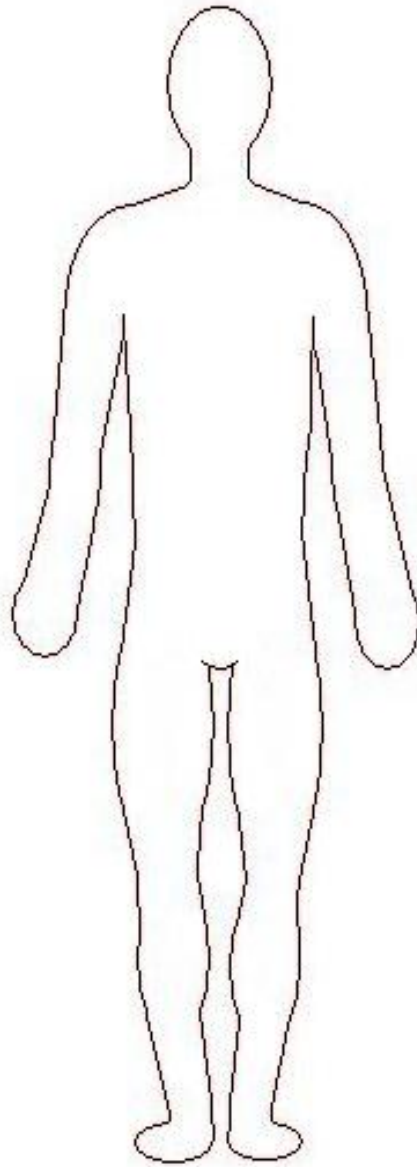
Client's Name: _____

Date				
Behavior(s)				
Antecedent Behavior(s)				
Behavioral Management Strategies				
Response to Behavioral Management Strategies				

**This is the authentic work of the authors of this clinical guide: Christen, M., & Hansmeier, B.*

HANDOUT: Anger Management Worksheet

Instructions: Draw what happens to your body when you get angry.



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HANDOUT: Coping Skills Worksheet for Children

My name: _____

I get angry when: (check all that apply)

- ☐ I can't do something that I wanted to do.
- ☐ I don't get along with my brothers or sisters.
- ☐ Someone picks on me or makes fun of me.
- ☐ I feel like I can't do something well.
- ☐ I have to share something with someone else.
- ☐ Someone gets mad at me.
- ☐ There is a change in my schedule.
- ☐ I'm at school.
- ☐ I'm at home.
- ☐ Someone is better than me at an activity.

My physical symptoms of anger are: (circle all that apply)



Headache



Sweating



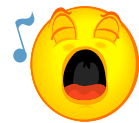
Face gets red & hot



Clench my fists



Racing heart



Dry throat & mouth

Some things that make me feel better when I'm angry are:

1) _____ 2) _____ 3) _____

Things that make me feel calm: (check all that apply)

- | | |
|---|---|
| <input type="checkbox"/> bouncing on a trampoline | <input type="checkbox"/> journaling |
| <input type="checkbox"/> squeezing a stress ball | <input type="checkbox"/> listening to music |
| <input type="checkbox"/> punching my pillow | <input type="checkbox"/> physical activity |
| <input type="checkbox"/> screaming into my pillow | <input type="checkbox"/> sleeping |
| <input type="checkbox"/> other: _____ | <input type="checkbox"/> other: _____ |

I will plan to use _____ next time I feel angry.

Choose one calming activity from list above.

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HANDOUT: Coping Skills Worksheet for Adolescents

My Name: _____

Date: _____

1). I get angry when: _____

_____.

2). When I get angry, my body feels like: _____

_____.

3). When I'm angry, sometimes I get annoyed at people when they: _____

_____.

4). When I got angry I used to: _____

Afterwards, I felt: _____
_____.

5). Now, instead I can: _____
_____.

6). Activities I find relaxing that help to decrease my anger are: _____
_____.

7). One thing that I plan to do to calm myself down next time I feel angry is: _____

_____.

8). Someone that I can talk to about my feelings is: _____
Because: _____
_____.

**This is the authentic work of the authors of this clinical guide: Christen, M., & Hansmeier, B.*

HANDOUT: Journal Activity for Children

My Name: _____

Date	EXAMPLE			
I spent time with other kids....	At a friend's birthday party on Saturday afternoon.			
Did I join the other kids? (Circle yes or no)	YES NO			
I chose to participate because.... OR I chose not to participate because....	They were playing pin the tail on the donkey, and I like that game.			
I felt....	Happy, because I had fun playing the game.			

The chart is the authentic work of the authors of this clinical guide: Christen, M., & Hansmeier, B. Information in this chart was adapted from cited source.

Source:

Gutman, S. A., & Schindler, V. P. (2007). Supported education for adults and adolescents with Psychiatric disabilities: Occupational therapy's role. *OT Practice*, 12(5), CE-1-CE-8.

HANDOUT: Journal Activity for Adolescents

Client's Name: _____

Date: _____

Today I participated in these social activities:

The reasons I chose to participate in these activities was because:

This is how I felt after participating in the activity with other people:

Today, I initiated the following social activities:

Example: Asking a friend to go to the high school basketball game.

*This handout is the authentic work of the authors of this clinical guide: Christen, M., & Hansmeier, B.
Information in this handout was adapted from cited source.*

Source:

Gutman, S. A., & Schindler, V. P. (2007). Supported education for adults and adolescents with psychiatric disabilities: Occupational therapy's role. *OT Practice*, 12(5), CE-1-CE-8.

Family Handout: Behavioral, Emotional, and Social, Issues after a Pediatric Traumatic Brain Injury

What is a traumatic brain injury (TBI)?

A TBI is an injury to the brain that can be caused by the head being jolted or hitting something. A brain injury can change how your child behaves, thinks, and/or responds to daily activities and interactions with others. A TBI can also change how your child learns and acts in school.

Traumatic brain injuries can be grouped into three different categories: mild, moderate, and severe injuries. This is based on the length of time that your child is unconsciousness, the length of the time your child experiences memory loss, and the presence of physical injuries.

Emotional and behavioral symptoms you may see in your child:

Following a brain injury, you may notice some changes in how your child is behaving, thinking, or interacting with others. Some children may experience emotional or behavioral problems after the injury, while others may not experience any at all. Depending on how severe the injury is (mild, moderate, or severe), you may notice the following behaviors and emotions in your child:

- Anger/aggression (physical or verbal)
- Anxiety (worrying a lot, hard to concentrate)
- Difficulty relating to others
- Fatigue/tiredness
- Feelings of sadness and frequently crying
- Gets frustrated easily
- Impulsivity (acts quickly without thinking)
- Inappropriate behavior (acting out)
- Irritability (difficulty controlling emotions)
- Lack of motivation
- Lowered self-esteem
- Personality changes (mood swings)
- Social inappropriateness
- Unable to deal with change
- Withdrawn from family and friends

Tips for managing your child's behavior at home:

- Have a set schedule or routine for your child. A written schedule of activities that are repeated day to day will help a child remember what is expected and what to do next. Your child may have difficulty dealing with change so a schedule will reduce the likelihood that your child becomes frustrated or acts out behaviorally.
- Let your child know 15 minutes ahead of time when they need to end an activity. This will help your child transition to a new activity. (i.e., "In 15 minutes we'll be cleaning up and starting _____ activity.")
- Avoid reacting with frustration to problems by removing yourself from the situation. Your frustration may make your child become angry, frustrated, or feel bad about themselves.
- Your child may have intense mood swings (i.e., One minute your child is laughing and the next minute he or she is crying or angry). Realize that this is part of the brain injury, and the behavior is not intended. As a family member, become a role model for your child by displaying calm behavior and not becoming overcritical of these behavioral outbursts.
- If your child becomes angry, offer ways to reduce his or her anger (i.e., punching or screaming into a pillow, journaling, or squeezing a stress ball).
- Give positive and encouraging feedback to your child to reinforce appropriate behavior.

Encouraging your child to participate in leisure and extra-curricular activities:

Participating in leisure activities at school and in the community may be beneficial to your child for a variety of emotional and social reasons. By participating in extra-curricular activities your child can benefit in the following ways:

- Improve ability to socialize appropriately with peers
- Improve communication skills
- Improve cooperation
- Increase self-esteem and confidence
- Increase ability to tolerate for change
- Reduce anxiety
- Reduce sadness and negative thinking

Be sure that your child achieves a balance between these activities and rest, in order to reduce the risk of increased stress, frustration, and behavioral problems.

Taking care of yourself as a caregiver:

Since the behavioral, emotional, and social effects of a TBI can be long-term, it is important to make sure that you are taking care of yourself. Being a caregiver can be emotionally draining if you are not allowing yourself time to release stress and relax. The following are a few suggestions to ensure a smooth transition for you and your family upon your child's return home following a TBI:

- Make sure to get plenty of sleep (7 to 8 hours a night) and eat nutritious meals.
- Take time away from caring for your child without feeling guilty. Find things to do that you enjoy and that release stress (i.e., working out, going for walks, going shopping by yourself, being with friends, or reading a book).
- Don't be afraid to ask for help from others. Don't wait until you feel overwhelmed and exhausted. Be prepared by making a mental list of ways others can help you.
- Find a local support group within your community for families with children who have a TBI. You may find that being able to talk with other parents in similar situations can be comforting.
- Respite care, short term care that helps families take a break; can be provided in your home or within your community.
 - Visit The National Respite Locator Service website to find available services for you and your child within your state that match your needs.
 - **Website:** <http://chtop.org/ARCH.html>

Additional resources for more information and/or support:

- Brain Injury Association of America, Inc.:
 - Non-profit organization dedicated to people with brain injury and their families. Offers research, education, and advocacy programs through a national office, network of state affiliates, support groups, and a helpline.
 - **Phone Number:** 1-800-444-6443
 - **Website:** <http://www.biausa.org>
- National Dissemination Center for Children with Disabilities:
 - Call to find local parent support groups all around the United States
 - **Phone Number:** 1-800-695-0285
 - **Website:** <http://www.nichcy.org/>

Educator Handout: Strategies for Reducing Behavioral, Emotional, and Social Difficulties in the School Setting After a Traumatic Brain Injury

Definition of traumatic brain injury (TBI) according to Individuals with Disabilities Education Act (IDEA):

“...an acquired injury to the brain caused by an external physical force, resulting in total or partial functional disability or psychosocial impairment, or both, that adversely affects a child’s educational performance. Traumatic brain injury applies to open or closed head injuries resulting in impairments in one or more areas, such as cognition; language; memory; attention; reasoning; abstract thinking; judgment; problem-solving; sensory, perceptual, and motor abilities; psycho-social behavior; physical functions; information processing; and speech. Traumatic brain injury does not apply to brain injuries that are congenital or degenerative, or to brain injuries induced by birth trauma” [34 *Code of Federal Regulations* §300.8(c)(12)] (U.S. Department of Education, n.d.).

Preparing for the Student’s Return to School

- Find out as much as you can about the child’s injury and his or her present needs by talking with the child’s parents. Also, you can contact the child’s occupational therapist in the school or clinic setting.
- Learn about TBI by visiting websites, such as www.biusa.org or talking with healthcare professionals.

Helping the Student Succeed in Social Situations

- Offer encouragement by emphasizing the student’s strengths
- Following a TBI, children and adolescents may have difficulty making friends at school due to inappropriate social skills. Addressing social skills training with an entire class can help a student with a TBI develop appropriate social skills in a non-threatening manner.
- The inability to maintain previous friendships can cause decreased self-esteem. In turn, in some cases these leads to emotional issues and decreased academic performance.

Classroom Strategies for Managing Behavior

- Have consistent routines. This helps the student know what to expect. If the routine is going to change, let the student know ahead of time. (i.e., “Today, we will be having math class first and then reading.”)
 - Write these schedule changes on the board to help the student transition.
- Verbally alert the child of upcoming transitions to new subjects throughout the school day (i.e., “In 15 minutes we will be cleaning up and beginning math.”)
- Following a TBI, children and adolescents can quickly become tired. Allow the student to rest when needed will help to reduce frustration and behavioral outbursts.
- Reduce distractions within the classroom environment (i.e., loud noises, clutter in the classroom, etc.). Allow the student to have more time to finish tests and assignments, if established in the child’s Individualized Education Program (IEP). This will decrease frustration and behavioral issues.
- Give directions one step at a time. For tasks with many steps, it helps to give the student written directions. This will help to eliminate further frustration or anger.
- Show the student how to perform new tasks. Have the student demonstrate the skills back to you.

Communicating with Parents and Other School Professionals

- Consult with support personnel (occupational therapists, social workers, counselors, psychologists, and nurses). They can help you develop will strategies for teaching social skills and help the student return to “normal” routines in the classroom.
- Keep in regular contact with the child’s or adolescent’s guardians to give updates on the student’s progress (i.e., send a written note home, contact via phone, or talk to the parent in person).
 - Collaborate with the student’s guardians to find out what strategies at home are successful in managing anger and frustration.
 - Communication ensures that behavioral management strategies are consistent at home and school.

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- U. S. Department of Education (n.d.). *Building the legacy: IDEA 2004: Traumatic brain injury*. Retrieved on February 6, 2009, from <http://idea.ed.gov/explore/view/p/%2Croot%2Cregs%2C300%2CA%2C300%252E8%2Cc%2C12%2C>

CHAPTER V

SUMMARY

In congruence with the literature, pediatric clients who sustain a traumatic brain injury (TBI) experience a wide-range of behavioral, emotional and social deficits that impacts client's efficiency, effectiveness, and satisfaction with occupational performance (Schkade & Schultz, 2003). Guided by the Occupational Adaptation (OA) frame of reference, adult learning theory, and the *Occupational Therapy (OT) Practice Framework*, 2nd ed. (2008), this clinical guide is meant to provide practitioners with a framework to address psychosocial issues during the evaluation, intervention planning, and intervention implementation processes with pediatric clients who have sustained a TBI.

The clinical guide incorporates information regarding background knowledge and terminology about pediatric TBIs, psychosocial symptoms, and OT practitioners' holistic role in addressing psychosocial deficits in relation to occupational functioning. The clinical guide also provides specific pediatric psychosocial assessments, sample goals that are reimbursable in a rehabilitation setting, and intervention ideas that address psychosocial deficits, including behavioral management, social skills, self-esteem, and emotional well-being. In accordance with client-centered practice, OT practitioners should select and modify the most relevant assessment tools and intervention ideas based on the needs of each individual and the demands of their specific work setting.

Reproducible handouts are included in the clinical guide to assist the OT practitioner in implementing the strategies into daily practice during direct delivery of therapeutic services. Handouts focus on the following topics: charts for documenting symptoms, intervention activities and worksheets, and educational materials for family members and school system professionals. While the handouts are specifically denoted in the table of the contents, a separate workbook was also created. The workbook is meant to be used as a convenient book of handouts that are readily accessible for reproduction by OT practitioners for themselves, family members, and school system professionals. The workbook can also be utilized as an additional guiding tool for OT practitioners when first introducing this clinical guide into an OT department.

This clinical guide is intended to be implemented with children and adolescents between the ages of 5 and 18 years of age who have sustained a TBI. Children younger than five were not included in the target population as the therapeutic approaches addressed in the guide require a certain degree of motor, cognitive, and verbal skills, which are not always present in infants, toddlers, and children in early developmental stages. Therapeutic approaches, particularly assessment tools and intervention approaches, for adolescents older than 18 years of age were also not included in this guide. There is the potential in the future for the guide to be expanded to include assessment tools and intervention approaches that address these two client populations.

The guide has been designed to be implemented in inpatient and outpatient physical disability settings that provide services to pediatric clients who have sustained a TBI. In accordance with the Occupational Adaptation frame of reference, the overarching goal is for OT practitioners to spend a limited amount of time addressing psychosocial

occupational readiness skills. Rather, the hope is that the OT practitioner will incorporate psychosocial strategies into previously utilized occupation-based interventions. This not only provides increased meaning to the client, but also results in greater generalization of behavioral, emotional, and social skills to occupational performance. The use of this clinical guide will vary dependent upon the type of rehabilitation setting. Some settings currently have established pediatric TBI programs, but are lacking the incorporation of addressing psychosocial issues. In an already established specialized TBI program, implementation of this guide may be an easier transition, whereas other settings may need a longer transition time to understand background knowledge on pediatric TBIs and to incorporate appropriate pediatric TBI assessments and interventions. In all settings, the OT practitioner is encouraged to provide leadership to incorporate these psychosocial assessments and intervention approaches into their scope of service delivery.

Along with the use of this guide in rehabilitation settings, this may also be used by OT practitioners working in school systems and psychiatric settings. However, it should be noted that this was not the intended purpose of the guide, and therefore not all subject areas may be applicable to these practice settings. Development of the guide in the future may address the need to make the information more applicable to a variety of clinical settings beyond physical disability inpatient and outpatient rehabilitation settings.

Due to the fact that the clinical guide is intended to be self-directed in nature based on the principles of the adult learning theory, no specific training is provided for how to implement these strategies. This in turn may serve as a limitation in the implementation of the clinical guide. As OT practitioners are faced with increasing demands on their time in the clinical setting, they may not have the resources to

thoroughly explore the guide and utilize it in its intended manner. Therefore, it is recommended that a one-hour in-service be developed to educate OT practitioners on the impact of psychosocial deficits following a TBI. This is critical as the adult learning theory emphasizes the importance of making information relevant to the specific needs of the adult learner. In addition, more specific guidelines and training can be provided at this time to assist in the implementation process. OT practitioners who have experience working with pediatric clients with TBIs, as well as rehabilitative supervisors and managers would be qualified to provide this educational in-service.

Although pediatric TBIs continue to remain high in incidence, specific research regarding a child's and adolescent's psychosocial functioning following a TBI has not been thoroughly studied from an OT perspective. Due to a lack of research that focused exclusively on psychosocial therapeutic approaches in OT with pediatric clients who have sustained a TBI, the majority of research studies utilized in the literature review were taken from developmental, educational, medical, and psychological journals. Therefore, it should be noted that the information in the clinical guide has been adapted to meet the unique role of the OT practitioner in congruence with the profession's domain of practice. As a result, it is recommended that a thorough review of the literature be conducted on an annual basis in order to obtain recently published quantitative and qualitative evidence on this subject matter. Based on the findings, the clinical guide should be updated on an annual basis to reflect the latest literature findings.

Since no official research studies have been conducted regarding the utilization of this clinical guide, the product is meant to be used solely as a guide when addressing pediatric client's psychosocial deficits following a TBI. Therefore, OT practitioners are

encouraged to utilize previous knowledge and experience when addressing these psychosocial issues in relation to occupational performance. The OT practitioner's clinical reasoning skills and activity analysis skills will ensure the most effective outcomes in the use of this clinical guide with pediatric clients. It is recommended that a pilot study be conducted with a sample of OT practitioners across the region. Quantitative and qualitative outcome measures will assist in determining the OT practitioner's satisfaction with the structure and content of the guide, as well as the utilization rate with pediatric clients who have sustained a TBI. (Refer to Appendix C for a quantitative and qualitative outcome survey). The findings of these surveys and outcome measures will then be used to modify the clinical guide to increase its applicability to the clinical setting and improve the ease of implementation. After the revised clinical guide has been pilot tested again with a sample of OT practitioners, it may be feasible to pursue more formalized publication and dissemination of the clinical guide. A grant from a state or national agency may need to be secured in order to ensure the financial feasibility of the clinical guide's publication.



In addition, quantitative and qualitative outcome measures are recommended to chronologically assess pediatric client's psychosocial symptoms. These measures can be used to assess the impact on an individual's occupational functioning, and subsequent efficacy of the clinical guide. These quantitative and qualitative outcome measures can be used to assist in implementing future research studies. This is critical as there is a significant lack of research regarding the long-term effects associated with psychosocial deficits in pediatric clients following a TBI. Further research will not only improve the effectiveness of therapeutic psychosocial interventions, but will also assist OT

practitioners in demonstrating the validity of the profession's services in addressing psychosocial issues with this client population. This is imperative at a time when limited financial resources and an emphasis on cost-savings are forcing disciplines to justify the efficacy of their services. Institutional Review Board approval would need to be secured with an appropriate academic body in accordance with ethical standards of practice before the implementation of a research study. This guide has provided current information for OT practitioners, but it is still considered to be in its infancy stages. Further development and research involving OT practitioners will enrich this underdeveloped area of OT practice.

APPENDICES


Appendix A

Permission to Use Visual Representation of the Brain

Date: Thu, 05 Mar 2009 08:05:19 -0600 [03/05/2009 08:05AM CDT]
From: Mandy Christen <mchristen@medicine.nodak.edu>
To: bhansmeier@medicine.nodak.edu
Subject: Fwd: RE: BrainInjury.com website
Part(s):  2.0 Forwarded Message: RE: BrainInjury.com website 3.27 KB
Download All Attachments (in .zip file) 

 1 unnamed 0.00 KB

Date: Tue, 3 Mar 2009 16:49:32 -0500
From: "Christopher Lane" <chris@mtpub.com>
To: mchristen@medicine.nodak.edu
Cc: chris@mtpub.com
Subject: RE: BrainInjury.com website

 2.1 unnamed 1.74 KB

Mandy,

Permission has been provided by Steven Igou for use of the image provided that proper credit including the website address (<http://www.braininjury.com>) is noted in your material.

Thank you.

Christopher E Lane
chris@mtpub.com
519.725.1593

Montana Publishing
253 King Street North
Waterloo, ON N2J 2Y8

-----Original Message-----

From: chris@nonline.net [mailto:chris@nonline.net]
Sent: Friday, February 27, 2009 5:25 PM
To: chris@mtpub.com
Subject: Fwd: BrainInjury.com website

----- Forwarded message from -----

Date: Tue, 24 Feb 2009 09:25:09 -0600

From: Mandy Christen <mchristen@medicine.nodak.edu>

Reply-To: Mandy Christen <mchristen@medicine.nodak.edu>

Subject: BrainInjury.com website

To: info@mtpub.com

To Whom It May Concern:

My name is Mandy Christen, I am a graduate student at the University of North Dakota in the Occupational Therapy Program. My partner, Becky Hansmeier, and I are completing a scholarly project that includes creating a clinical guide for occupational therapists working with children who have experienced a traumatic brain injury. I came across a picture that is located in the Braininjury.com website by Steven Igou that your company is hosting and maintaining. I wanted to request permission to use a picture for the clinical guide from this website of the different lobes of the brain located under the "symptom checklist" section of the website. The clinical guide would be used by practicing occupational therapists as a learning tool about traumatic brain injury. Thank you for your time and help.

Sincerely,

Mandy Christen, MOTS & Becky Hansmeier, MOTS

mchristen@medicine.nodak.edu

- ----- End forwarded message -----

Appendix B

Permission to Use Rancho Levels of Cognitive Functioning

Date: Fri, 01 May 2009 13:26:46 -0700 [05/01/2009 03:26PM CDT]
From: Bertha Cabral <bcabral@dhs.lacounty.gov>
To: bhansmeier@medicine.nodak.edu
Subject: Fwd: Data posted to form 1 of http://www.rancho.org/fb_gi.htm

Permission granted, hope you receive the e-mail this time.

MessageType: Question
Subject: Website
SubjectOther:
UserName: Becky Hansmeier
UserEmail: bhansmeier@medicine.nodak.edu
UserTel: 605-216-4013
ContactRequested: ON
Submit Comment: Submit
Date: April 27, 2009

Comments:

Dear Ms. Cabral,

Thank you for permission to use the Rancho Cognitive Levels in our clinical guide for occupational therapy practitioners. The attachment you sent is unable to be opened. At your convenience could you please send the e-mail again as we are required to display your written permission in the appendices of our scholarly work. Thank you once again.

Sincerely,
Becky Hansmeier, MOTS
Mandy Christen, MOTS

To Whom It May Concern:

My name is Becky Hansmeier. I am a graduate student at the University of North Dakota in the Occupational Therapy Program. My partner, Mandy Christen, and I are completing our scholarly project, a requirement for the Master's degree program. Our project entails creating a clinical guide for occupational therapists working with children and adolescents who have experienced a traumatic brain injury. The guide will assist practitioners in addressing psychosocial symptomology.

We are interested in using The Ranchos Levels of Cognitive Functioning to provide pertinent background information about traumatic brain injuries. We are requesting permission to use the information from your charts in our clinical guide. We would adapt the information to specifically address the behavioral and social issues individuals encounter at each level. The physical and cognitive symptoms would not be included in our information. The clinical guide would be used by practicing occupational therapy practitioners as a learning tool about traumatic brain injury.

Thank you for your time and consideration. Please feel free to contact me at 605-216-4013 or by e-mail at bhansmeier@medicine.nodak.edu if you have any questions regarding this request.

Sincerely,

Becky Hansmeier, MOTS
bhansmeier@medicine.nodak.edu

Mandy Christen@medicine.nodak.edu
mchristen@medicine.nodak.edu

Appendix C

Outcome Measure

**A Clinical Guide for Occupational Therapy Practitioners: Addressing
Psychosocial Issues Related to Pediatric Traumatic Brain Injury**
Mandy Christen, MOTS, Becky Hansmeier, MOTS, & Jan Stube, PhD, OTR/L

Completion of this survey is optional and your responses will be kept anonymous. You do not have to answer any questions you do not feel comfortable responding to.

Basic Demographic Information

Position: ___ OT ___ OTA

Number of years in practice: _____

Number of years working with pediatric clients who have a traumatic brain injury:

Have you previously taken courses or received training related to psychosocial deficits following a pediatric TBI: _____ Yes _____ No *If yes, please list below.*

Area of practice: ☐ Inpatient Rehabilitation
☐ Outpatient Rehabilitation
☐ Other

Structure

1.) The information is easy to locate in the clinical guide.

- ___ Strongly disagree
- ___ Disagree
- ___ Agree
- ___ Strongly agree

2.) The handouts can easily be copied and distributed to family members and school system professionals.

Family Members

- ___ Strongly disagree
- ___ Disagree
- ___ Agree
- ___ Strongly agree

School system professionals

- ___ Strongly disagree
- ___ Disagree
- ___ Agree
- ___ Strongly agree

Content

1.) What content in the clinical guide is most relevant to your area of practice?

Check all that apply.

- ☐ Background information
- ☐ Psychosocial issues with pediatric TBI
- ☐ Occupational therapy practitioner's role
- ☐ Occupational therapy assessments
- ☐ Occupational therapy goals
- ☐ Occupational therapy psychosocial assessments
- ☐ Education for family members
- ☐ Education for school system professionals

2.) What portions of the clinical guide would you like to be changed or expanded?

- ☐ Background information
- ☐ Psychosocial issues with pediatric TBI
- ☐ Occupational therapy practitioner's role
- ☐ Occupational therapy assessments
- ☐ Occupational therapy goals
- ☐ Occupational therapy psychosocial assessments
- ☐ Education for family members
- ☐ Education for school system professionals

Please describe what recommendations you have for changing or expanding the sections you marked needing improvement.

4.) The information in the clinical guide has increased my confidence in addressing psychosocial issues with pediatric clients who have sustained a TBI.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Agree
- ☐ Strongly agree

Additional comments/suggestions:

Thank you for taking the time to complete this survey. Your opinions are greatly appreciated and highly valued. The information you have provided will be taken into consideration when making revisions to the clinical guide to better serve the needs of practitioners and their clients.

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