



# Mild Traumatic Brain Injury (mTBI) Affects the Family, Not Just the Injured Individual

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## Impact of Mild TBI on the Family

### Overview

Mild traumatic brain injury (mTBI) is a significant public health concern. An estimated 70–90% of individuals who have received treatment for brain injury are classed as mTBI [1, 2]. The true incidence of mTBI is still unclear as not all individuals report to emergency departments following mTBI. The World Health Organization (WHO) task force suggested that in a civilian population, when taking into consideration hospital-treated mTBI as well as population-based surveys on self-reported mTBI, the true mTBI incidence could be higher than 600/100,000 [2, 3]. Since 2000, over 397,000 US military service personnel have sustained a TBI, the majority of these classified as mild [4]. Although the majority of individuals recover fully after an mTBI, there is a small percentage of individuals who continues to experience cognitive, somatic,

and emotional changes. The exact reason for this is still not clear, and researchers have attempted to identify factors that could contribute to this delayed recovery.

Moderate and severe traumatic brain injuries (TBIs) have been studied by a large number of researchers, and the role the family plays in terms of recovery continues to be a topic of research. The effects of TBI on family relationships have been explored by numerous researchers [5–7]. Following a TBI, family members' responsibilities can include helping individuals manage activities of daily living, including daily tasks such as appointments and finances, as well as offering emotional support and helping to support socialization, thus playing a crucial role in reintegration following injury.

There is, however, very little evidence exploring the impact of mTBI on family reintegration in the current evidence base. To date, most of the mTBI research has focused on the individual, not on the significant impact physical, emotional, cognitive, and behavioral changes can have on family relationships after an mTBI.

### Military, Mental Health, and Family Reintegration

Behavioral changes and relationship challenges have been long-standing concerns for military personnel returning from deployment. The risk of developing psychological difficulties following

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military deployment has been discussed within the literature, and according to surveys administered by the US military Mental Health Advisory Team (MHAT) [8], it is more likely that individuals will develop mental health difficulties as a result of stress within the family (this is related to difficulty with reintegration after deployment and difficulty with re-establishing roles/responsibilities). There is also a heightened risk of divorce and domestic violence in returning veterans [9].

It is also estimated that up to 19% of combat veterans returning from Iraq and Afghanistan go on to develop post-traumatic stress disorder (which can be either isolated or with an mTBI), and numerous studies have demonstrated the relationship between PTSD and problematic family functioning [10, 11], highlighting the multiple factors that can interfere with reintegration into home life after deployment and sustaining a life-changing, sometimes “invisible,” injury.

As there is a significant overlap between somatic, cognitive, and psychological symptomatology after an mTBI, it is important to understand the impact psychological changes following such an injury could have on family dynamics, despite the lack of empirical evidence to support this notion.

Individuals with an mTBI can have a range of cognitive, physical, and psychological symptoms, and in most cases, these symptoms resolve promptly. However, a subset can experience persistent symptoms post-3 months that can create unique treatment challenges; emotional, somatic, and social interaction changes can all affect the family dynamic [12]. Hyatt’s study [12] specifically investigated service members returning from a deployed setting after sustaining an mTBI. The injured individual may express stress in the form of anger, depression, and anxiety, and sometimes it can be perceived by family members as a personality change. Without prompt recognition, understanding, and intervention, mTBI and its longer-term consequences could have a major impact in terms of reintegration into the family.

Evidence from the TBI literature, specifically a study conducted by Wood and Yurdakul [13], highlighted a change in marital status following

head injuries of varying degrees/severity, specifically, that almost 50% of individuals were divorced or separated after the head injury (this follow-up was conducted on average 8 years post-injury), identifying a potential breakdown in family relationships following TBI. Poor family support and lack of cohesiveness might also be contributing factors to work and community integration after a TBI, indicating the role of the family to support better outcomes after TBI [14].

When evaluating whether family members receive input or support to prepare themselves for the caring role they potentially have to play, it appears that despite the rehabilitation teams’ best efforts to educate and prepare families, many report feeling overwhelmed and poorly equipped to provide for the individual’s complex long-term needs [15, 16]. Research indicates that a family’s ability to cope in the face of stressors influences the quality of support they can provide to the injured individual [17].

## **mTBI and Family Integration**

When examining the potential relationship between family functioning and community integration, Sady and colleagues [18] found, specifically with mild to moderate TBI, that having a family that has a healthy dynamic prior to injury may be associated with higher levels of independence with personal and domestic activities of daily living, highlighting the importance of family support to facilitate better outcomes after both mild and moderate TBI.

Family intervention is not an area that has been well researched within the field of mTBI; however, Kreutzer and colleagues [19] attempted to bridge this gap by examining family intervention after TBI with the use of the Brain Injury Family Intervention (BIFI), which is a structured treatment approach, focusing on those areas most identified as requiring support by both the family and TBI individual; within this study, a subsample was mTBI individuals. This study highlighted that the treatment approach (focusing on education, skill building, and emotional support) was successful in reducing perceived barriers to

accessing other services in the post-acute phase as well as meeting the needs of the family members set out at the start of the intervention. It is, however, important to note that this study did not have a control group, and numbers of participants were low. It does, however, provide support to the importance of family intervention following mTBI.

Bay and colleagues [20] found that individuals with an mTBI who experienced self-perceived low levels of belonging and a poor valued fit and involvement with others were more likely to have self-reported limitations with emotional control and social interaction, and these individuals also lacked confidence, highlighting the potential relationship between social support and recovery after mTBI. The study also discussed that the focus of treatment, both for the individual and family involvement, should also include psychological work for the individual to regain a sense of belonging, as this might lead to improved psychosocial outcomes. This is further supported by Bell and colleagues [21] who found that focusing on symptom management alone will hinder psychosocial and, in turn, overall recovery.

Laundau and Hissett [7] conducted a qualitative study where they examined the loss of self and identify ambiguity and the impact of this on the family following an mTBI. Individuals following mTBI described changes with their self-image, a reduction in confidence, and generally a loss of their sense of self, demonstrating the complexity of this injury. It is also likely that, if one member of a family structure's roles and identity are in question, this could have a significant impact on the family system itself. Laundau and Hissett [7] go on to further discuss that after an mTBI, it is important that the individual's boundaries within the family should be discussed and identified, especially the emotional changes the individual may be experiencing, thus involving both the family and the mTBI individual in the rehabilitation process. Changes in socialization, emotional status, and perceived functional performance can impact on how the individual interacts with the family, and, with a change in these skills, family dynamics can potentially change. Returning to "normal" is not always realistic, and the focus

has to be shifted toward developing/creating the person they want to become; therefore, the family has to work together to move toward finding "their new joint reality," which will reduce ambiguity and false hope.

Hyatt [12] identified, by using a grounded theory methodology, which supports the conclusions of Landau and Hissett [7], that finding the "new normal" appears to be one of the main foci of family reintegration, and three themes were identified: (1) facing up to the service member's unexpected return home; (2) managing unexpected changes in the family routine, which can include having to take on more of a caregiver's role; and (3) "experiencing mismatched expectations," such as unrealistic views of the mTBI individual's functional abilities (by both the individual and family member) and adjusting to new expectations for the family and the likely shift in relationships. The study also found that longer marriages (>10 years) appear to adjust faster to changes following injury and that there were also other challenges when returning from deployment with an mTBI, such as changes to normal family routine (delayed [and unexpected] changes), understanding how to fit injury-related difficulties into the family dynamics, and managing and resolving misaligned expectations.

Lefebvre and Levert [22] also attempted to capture the experiences of individuals and their families after sustaining an mTBI. Themes that were identified through the focus groups in this study, related to treatment and recovery, were, firstly, the need for expert, early intervention. They also reported that there was a requirement for clear, accurate information and that a lack of information can have devastating consequences for the individuals who develop chronic difficulties and for their family members and friends. The participants in the focus group also agreed that, because their mTBI symptoms did not resolve within the timeframes many professionals acknowledged and reassured, their symptoms were likely exacerbated by the lack of understanding of why their symptoms have not resolved.

Faced with difficulties that they did not fully comprehend, combined with the inability to

resume their pre-injury functional level, this could potentially lead to a reduction in self-esteem and confidence. Most family members felt the need to support the mTBI individual but did not feel they had tools to do this effectively. Ongoing problems can also lead to a requirement to change the family dynamics, with others taking on more and different roles than pre-injury. There appears to be consensus from participants that a lack of support for the family in the acute phase of recovery is a problem, as most of the attention is focused on the individual who had sustained an mTBI, rather than being inclusive of the family. This ties in well with Gillen and colleagues [15] and Hall and colleagues [16] who found that despite some input in the acute setting, families still feel ill-equipped to deal with the TBI individual on return home from the hospital, supporting the notion that family support and education can help support functional recovery and facilitate family reintegration of the mTBI individual.

### **Current Military Information/ Treatment Programs**

Within the US military, the Defense and Veterans Brain Injury Center (DVBIC) has developed a Family Caregivers Guide to help support the transition from “family member” to “caregiver” after a service member sustains a TBI. Although this guide mostly focuses on moderate and severe TBI, some of the information can be generalized to the mTBI population.

This guide/booklet aims to encapsulate some of the key themes identified through research, including the caregiver/family member in the rehabilitation pathway, providing them with clear, accurate information, both in visual and written format, as well as contact details of clinicians that are a part of the holistic treatment approach. It is also acknowledged in the booklet that a key component of changing roles and relationships following a TBI is to ensure that the caregiver looks after their own health and well-being, and practical approaches, tips, and ideas are provided along with contact details of where support can be obtained [4].

In the United Kingdom, the charity, Headway, has written a booklet on “Caring for Someone with a Brain Injury,” again with the focus on more severe TBIs [23]. The Defense Medical Rehabilitation Centre Headley Court, as part of their mTBI service, designed a one-page leaflet for relatives, explaining what an mTBI is and what they can expect following an mTBI. Family members are also encouraged to attend sessions with the injured service person to help support reintegration and educate the family member on how they can support them.

### **Summary of Intervention to Support Family Reintegration**

There is clearly a requirement to ensure family education and support is offered to best enable the mTBI individual to reintegrate into the family system. This intervention should aim to include some of the recommendations, as extrapolated from the evidence (as discussed in this chapter):

- *Requirement for early, expert intervention.* Early assessment, education, and treatment of the mTBI and other difficulties following the injury are vital to symptom recovery.
- *Provision of clear, accurate information to both the mTBI individual and the family.* This can take the form of leaflets but should also include face-to-face sessions with family members to help prepare them for their role in the recovery process.
- *Support from clinicians to help with improving mTBI difficulties.* This is essential, but the clinician should aim to use a holistic approach. Sessions should include, where possible, the family in the rehabilitation process alongside the biopsychosocial aspects of care.
- *Collaboration and joined-up care with inclusion of a family component to form part of the service.* Following an mTBI, individuals report that it would be beneficial to their recovery if there was collaboration between all healthcare professionals as well as utilizing both physical and psychological treatment approaches (holistic) and working toward

improving and protecting family relationships. Therefore, considering the biopsychosocial aspects of care is deemed as essential. Persistent symptoms may subsequently require the whole family dynamics to be altered or shifted, with some family members taking on more responsibilities than before the injury.

- *Reconstructing a new sense of self.* Supporting individuals to adjust to how they view their injury, themselves, and others is vital to the recovery process; what might initially be seen as a loss or challenge can become something more positive (gains after the mTBI) – personal growth experience. A key concept to facilitate post-traumatic growth is for the individual and family to work together to accept their current situation and the changes since the injury (growing “together”). Support to address expectations that differ and help working toward acceptance of their “new” normal should be considered, and mTBI intervention has to focus on both the mTBI individual and the spouse/family members.

## Conclusion

mTBI remains a complex condition to treat as the symptoms are multifaceted. The longer-term consequences and changes as a result of an mTBI can have a detrimental impact on not only the mTBI individual but also on family relationships. This may be due to the perception by the spouse of personality and behavioral changes within the individual, such as increased anger, frustration, anxiety, and loss of motivation, self-esteem, and confidence. This is likely linked to the impact the cognitive and physical sequelae are having on the individual’s sense of self and their own adjustment process. These symptoms could interfere with a couple’s communication and relationship and, thus, possibly challenge marital satisfaction.

Using a holistic treatment approach early after injury, involving the family within the recovery process, and supporting healthy family dynamics

is likely to support improvements following an mTBI. Finding ways to support the individual and family to manage emotional distress and accept lasting changes after the mTBI may be key to post-injury family reintegration and improved socialization.

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