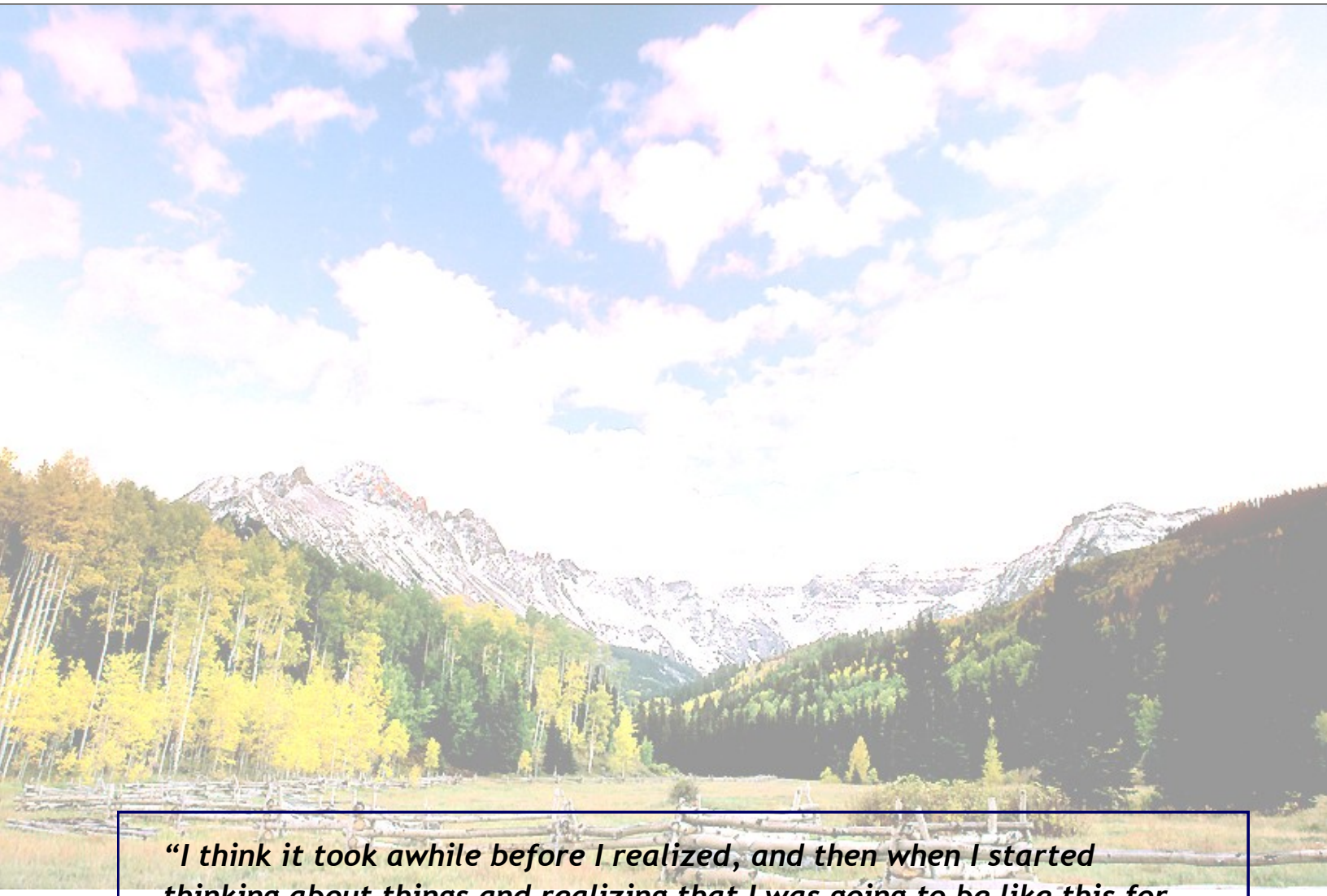
MIRECC
VISN 19 ROCKY MOUNTAIN NETWORK

Traumatic Brain Injury and Suicide

Information and resources for clinicians



"I think it took awhile before I realized, and then when I started thinking about things and realizing that I was going to be like this for the rest of my life, it gives me a really down feeling and it makes me think like—why should I be around like this for the rest of my life?"

- TBI Survivor

VISN 19 Mental Illness, Research, Education, and Clinical Center

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This clinicians' information and resources guide was supported by a grant from the Colorado Traumatic Brain Injury (TBI) Trust Fund Education Program.

Disclaimer: This packet was designed to help guide clinicians in their work with TBI survivors who may be suicidal. However, the information contained herein is not exhaustive, and clinicians are encouraged to seek out additional resources as needed. This packet does not address all aspects of suicide or TBI.

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Introduction

There is a need for more resources that are specifically targeted toward TBI survivors who may be considering suicide.

Based upon this need, researchers at the VA VISN 19 Mental Illness Research, Education, and Clinical Center (MIRECC) produced this information and resources guide.

The target audience is clinicians and care providers working with TBI survivors.

This guide includes:

1. Basic information regarding suicide and suicidal behavior
2. Basic information regarding TBI
3. Findings regarding the increased risk for suicidal behavior post-TBI
4. Tools for inquiring about potential suicidal behavior or history of TBI
5. Treatment considerations based upon existing literature
6. Prevention and treatment considerations based upon interviews of TBI survivors conducted by the authors
7. Resources for clinicians, individuals with a history of TBI, and family members

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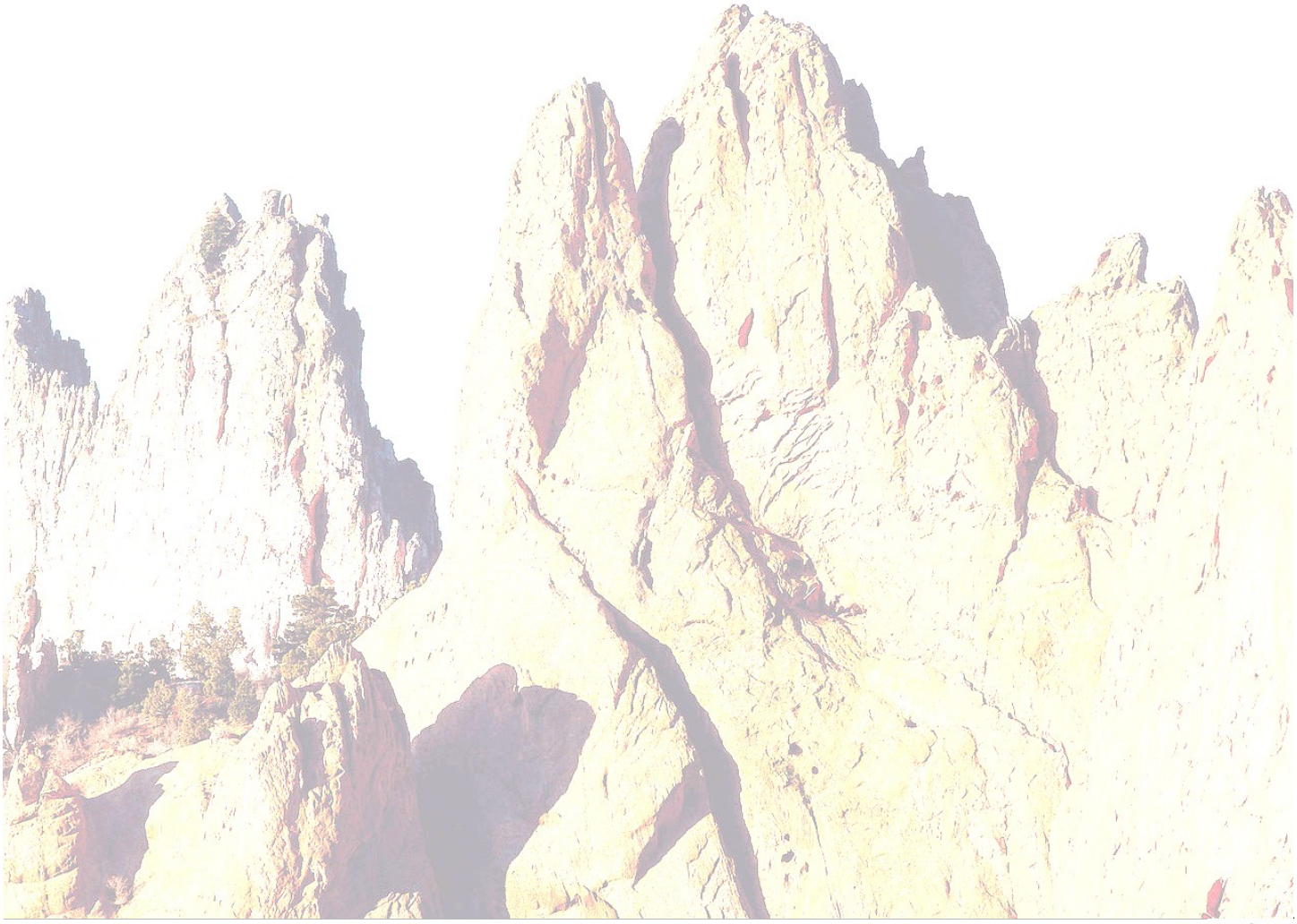
Section: Suicide

"The worst feeling is like there's nowhere else to go or nothing else to try."

- TBI Survivor



Suicide: Demographics

- Suicide is a major leading cause of death in the United States, accounting for approximately 33,000 deaths per year.[1]

- In the United States, white males account for approximately 71% of suicide deaths each year.[1]

- Suicide rates are the highest for older white males.[1]

- Men are four times more likely to die by suicide than women.[1]

- Veterans are twice as likely to die by suicide compared to non-Veterans in the general population.[2]

- Among Veterans, younger and older Veterans are more prone to die by suicide than middle-aged Veterans.[3]

Suicide Risk Factors[4,5]

Risk factors: Common correlates of suicidal behavior.
These include individual characteristics (e.g., age, gender), diagnoses (e.g., depression), and life events (e.g., divorce, unemployment).

- Previous suicide attempt(s)
- Current ideation, intent, plan, access to means
- Family history of suicide
- Alcohol/substance abuse
- Recent discharge from an inpatient unit
- Current or previous history of psychiatric diagnosis
- Co-morbid health problems
- Impulsivity and poor self-control
- Hopelessness
- Recent losses - physical, financial, personal
- History of physical, sexual, or emotional abuse
- Same-sex sexual orientation
- Age, gender, race, social status (e.g., elderly or adult, unmarried, white, male, living alone)

Although risk factors are related to suicidal behavior,
they *do not necessarily* predict individual behavior.

Suicide Protective Factors

Protective factors: Factors that can protect one from suicidal behavior. Examples include social support, spirituality, and adaptive coping strategies.

These protective factors are highlighted on a brochure to help Veterans, their family members, and friends learn that they can take the necessary steps to get help, titled:

***ACE: Suicide Prevention for Veterans and Their Families and Friends*.**

This brochure can be downloaded from:
http://www.mirecc.va.gov/docs/ACE_Package.pdf

- Family, friends, social support, close relationships, battle buddy
- Coping/problem-solving skills
- Ongoing health and mental health care relationships
- Reasons for living
- Cultural and religious beliefs that discourage suicide and support living

Protective factors may not provide a sufficient buffer during periods of crisis.

Suicide Warning Signs

Warning signs: The earliest detectable signs that indicate that there is a heightened risk for suicide within minutes, hours, or days. Warning signs refer to a person's behaviors (e.g., buying a gun) or statements (e.g., "I would be better off dead").[5,6]

The following suicide warning signs were developed by expert consensus. These warning signs are highlighted on the *VA Suicide Risk Assessment Guide*[5] which is presented in part on page 28. They are also highlighted on the brochure entitled, ***ACE: Suicide Prevention for Veterans and Their Families and Friends***.

These signs require *immediate* attention:

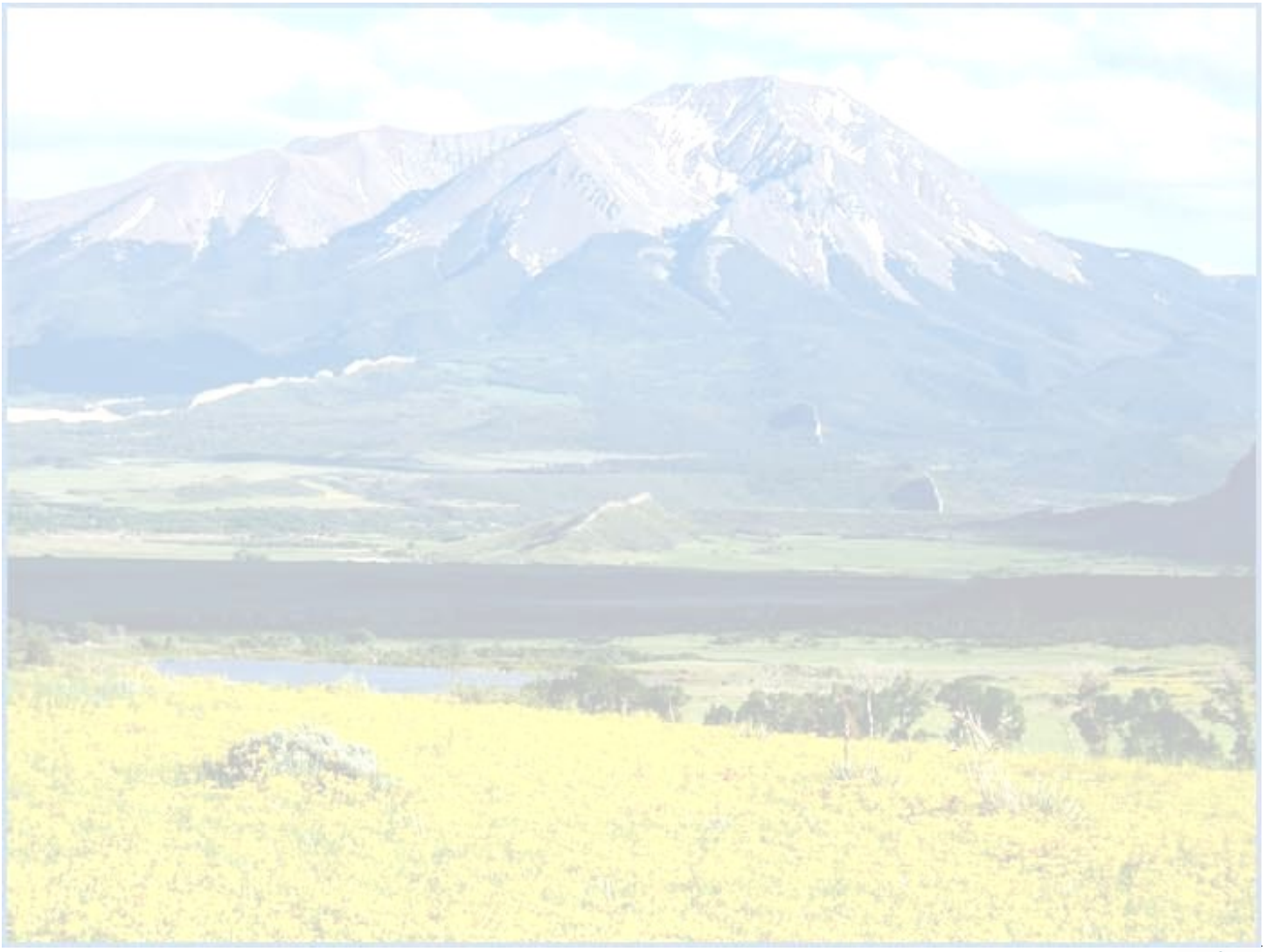
- Thinking about hurting or killing self
- Looking for ways to kill self
- Seeking access to pills, weapons, or other means
- Talking or writing about death, dying, or suicide

The presence of these signs requires contact with a professional:

- Inability to sleep or sleeping all the time
- Withdrawing from friends, family, and/or society
- Increasing alcohol or drug use
- Acting recklessly or engaging in risky activities
- Rage, anger, seeking revenge
- Avoiding things or reliving past experiences
- Anxiety or agitation
- Dramatic changes in mood
- No reason for living—no sense of purpose in life
- Feeling trapped—like there is no way out
- Hopelessness

Section: Traumatic Brain Injury (TBI)

"The worst part is, with traumatic brain injury, people can't see it. And they see on the outside that I move around. I do this, and I do that, but they don't see the struggle inside: the memory loss, the struggles to remember, the struggles to forget." - TBI survivor



TBI Definitions

Traumatic Brain Injury (TBI): A traumatic brain injury is a blow or jolt to the head or a penetrating head injury that disrupts the function of the brain. Not all blows or jolts to the head result in a TBI. The severity of such an injury may range from mild (i.e., a brief change in mental status or consciousness) to severe (i.e., an extended period of unconsciousness or amnesia after the injury). A TBI can result in short- or long-term problems with independent function.[7]

Types of injuries:

Medical terms used to describe specific types of TBI:

- Subdural Hematoma
- Epidural Hematoma
- Diffuse Axonal Injury
- Blast Injury

Levels of severity:[8,9]

Levels of TBI severity are measured through multiple means, all of which are related to brain functioning or the brain's condition immediately post-injury. Methods of measurement include an estimate of duration of altered or loss of consciousness (LOC) and/or post-traumatic amnesia (PTA), which is the period of time after the injury during which the TBI survivor is not able to form new memories. In addition, alteration of consciousness/mental state (AOC) is described if alteration immediately relates to the trauma to the head. If medical care is sought, a tool called the Glasgow Coma Scale (GCS) may be used to assess level of acute injury.

The VA has advocated the following system of classification:[9]

- **Mild TBI**: A TBI with normal structural imaging, 0-30 minutes of LOC, a moment and up to 24 hours of AOC, 0-1 day of PTA, or a GCS* score of 13-15
- **Moderate TBI**: A TBI with normal or abnormal structural imaging, >30 min and <24 hours of LOC, >24 hours of AOC, >1 and <7 days of PTA, or a GCS score of 9-12
- **Severe TBI**: A TBI with normal or abnormal structural imaging, >24 hours of LOC, >24 hours of AOC, >7 days of PTA, or a GCS score <9

*Glascow Coma Scale Score: Best available score in the first 24 hours

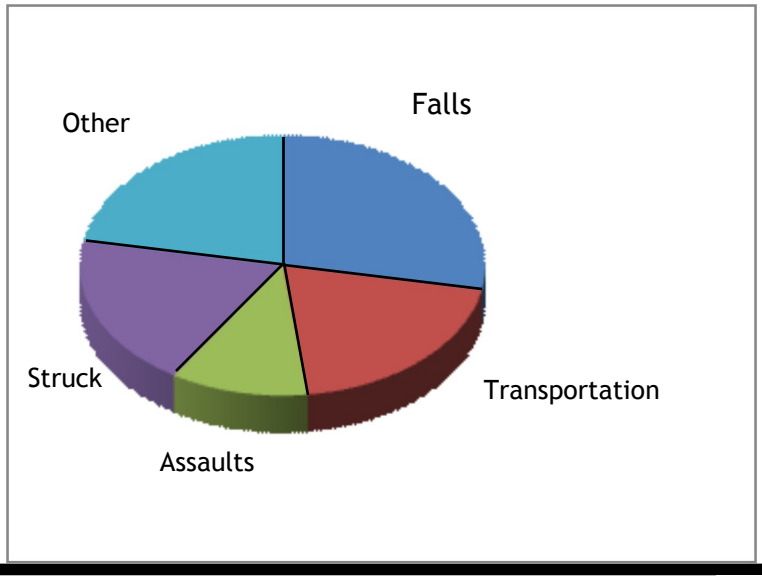
TBI: Demographics[7]

Each Year in the United States

- 1.4 million individuals sustain a TBI
- 50,000 die
- 235,000 are hospitalized
- 1.1 million are treated in the ER and released
- The majority of injuries sustained are classified as mild
- An unknown number of individuals receive no acute care
- 80,000—90,000 individuals experience a long-term disability as a result of TBI

Leading Causes of Civilian TBI[10]

- Falls (28%)
- Transportation-related events (20%)
- Struck by/against another object (19%)
- Assaults (11%)
- Other (22%)



TBI: Risk Factors[10,11,12]

The following have been identified as risk factors for sustaining a TBI:

- Age 15 to 19
- Alcohol and drug use
- Familial discord
- Low socio-economic status
- Unemployment
- Male
- Antisocial behavior
- Athletic participation
- Combat experience
- History of previous brain injury

Common Enduring TBI Symptoms[13]

The majority of individuals with mild TBI return to baseline functioning within one year of injury.[14]

Cognition

Motor/sensory disturbances

Impairments in:

Language, communication

Attention, concentration, memory

Learning new information

Speed of information processing

Judgment, decision-making, problem-solving, insight

Mood

Apathy/Depression

Anxiety

Irritability

Emotional lability

Insensitivity

Egocentricity

Behavior

Lack of initiation

Disinhibition

Impulsivity

Restlessness

Aggression

Agitation

The CDC estimates that at least 5.3 million Americans currently have a long-term or lifelong need for help to perform activities of daily living as a result of a TBI.[7]

Section: Suicide and TBI

"I had my heart set on it, and, for three days I just sat in my room and contemplated how to do this. And finally it got to the point where I tried…."

- TBI Survivor

Shared Risk Factors for TBI and Suicide:

Age

Male

Substance Use

Psychiatric Disorders

Aggressive Behavior

Suicide and TBI: Increased Risk

After a TBI, individuals may think about suicide.[15]

Having a TBI increases risk for suicidal behavior.

In comparison to the general population,
TBI survivors are at increased risk for:

Suicide Attempts[16]

Death by Suicide[17]

The risk of suicide attempts appears to increase after a TBI if the individual also has post-injury psychiatric/emotional disturbances and/or substance abuse problems.[17,18]

Why Might Those with TBI be at Increased Risk for Suicidal Behavior?

"It built up over a long period of time...problems that have been brewing over the last 20 or 30 years just finally kind of all added up together and you know, just kind of exploded..." - TBI Survivor

Sustaining a TBI can be stressful

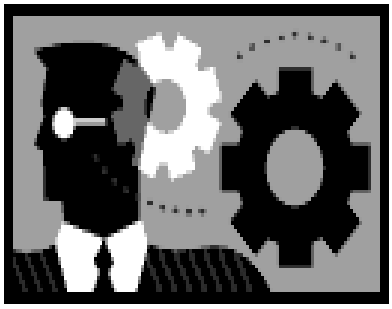
- Loss of support system
- Loss of job/income
- Increased psychological stress
- Change of roles within the family unit
- Decreased ability to function as a parent
- Decreased ability to function as a spouse/significant other

TBIs can contribute to limited problem-solving strategies

- Cognitive deficits
- Poor judgment
- Impulsivity
- Poor decision-making ability
- Organically-based mood lability

Assessment and Treatment Considerations

Suicide Risk Assessment



Questions to help you determine the level of suicidal risk:

What is the intensity, frequency, and duration of the thoughts?

What is the level of intent?

What is the rationale for the behavior?

What is the current level of combined stressors?

If the individual has a plan, how lethal is the method they are describing?

Is the plan feasible?

Have there been past attempts? If so, is this situation similar?

Once you have assessed that there is a risk for suicidal behavior, you need to work with the TBI survivor and members of their support system to determine the safest way to manage their level of risk.

History of TBI Assessment

Questions to help you assess for a history of TBI:

- Have you ever had a head injury?
    - When?
    - How many times?
- Do you remember what happened?
    - If not, what is the first thing you remember before/after the accident?
- Were you told that you had a loss of consciousness?
    - If so, for how long?
    - Can someone else provide this information also?
- Did you seek treatment?
    - If so, where?
- How long were you in the hospital?
- Were drugs/alcohol involved?
- Did you notice a change in your thinking or personality after the incident?
- Did you have trouble walking, completing tasks, driving, following a conversation?
- Did you have seizures/headaches?
- Did you receive Occupational Therapy, Physical Therapy, Speech, or Psychological services?

Treatment Considerations for TBI and Suicide Based on the Literature

- Screening, even many years after the injury, for post-TBI-related psychiatric sequelae is indicated.

- Post-TBI some individuals may experience chronic suicidal ideation. As a result, survivors and family members/caregivers need to be educated about risk for suicide and encouraged to discuss and identify person-specific warning signs.

- In light of the fact that Simpson and Tate[15] found that a number of TBI survivors attempted suicide by overdose, they advocated limiting the availability of means. Once suicidal behavior has been identified as a significant issue, prescribers should "follow procedures designed to minimize harm."

- After a suicide attempt, close monitoring for at least one year for "signs of suicidality" is indicated.[18]

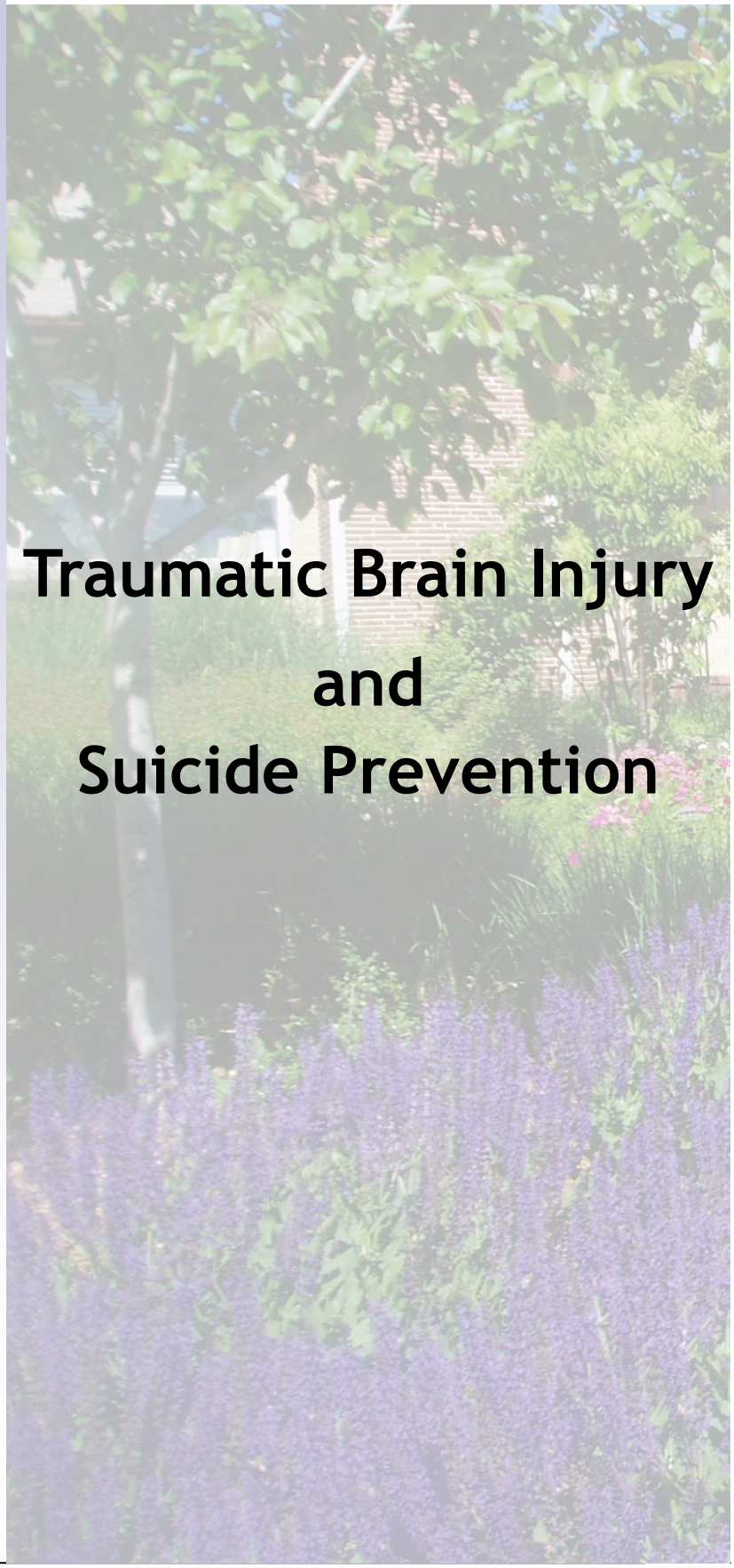
- Teasdale and Engberg[17] examined a 15-year period of time post-injury and found that the risk of suicide was maintained at roughly the same level during that period. This suggests the need for ongoing evaluation.

Limit the availability of means for suicidal behavior

VISN 19 MIRECC Qualitative Study

"There were a lot of times from the beginning where I was on a bad course or whatever. My therapist never just told me that I needed to get to this other track. She showed me the ropes and how to get through the maze to get to this point. You know, she never talked at me or told me, 'you've got to do this to get there.' She said, 'Let's do this together...'"

- TBI Survivor



Traumatic Brain Injury and Suicide Prevention

Traumatic Brain Injury and Suicide Prevention

With grant support from the Colorado TBI Trust Fund, 13 TBI survivors answered questions which were modeled after those used by researchers who completed a similar project.[19]

Treatment Considerations Based on the Study Findings:[20]

Precipitating Factors in Those with a History of TBI/Suicidality:

- Loss of self
  - Decreased sense of masculinity
  - Increased sense of burdensomeness
  - Frustration regarding the "hidden" nature of TBI
- Cognitive sequelae
  - Memory problems
- Emotional and psychiatric disturbances
  - Depression
  - Worthlessness
  - Anger
  - Hopelessness

Protective Factors in Those with a History of TBI/Suicidality:

- Social support
  - Family, friends, peers, pets
- Having a sense of purpose/hope
  - Having a job/hobby
  - Volunteering
  - Feeling that they are "still able to do something"
- Religion/spirituality
  - Having a community
- Mental health care
  - Access to care
  - Medication

General Recommendations for Suicide Prevention

Increased education about available services

Access to integrated treatment

Increased mental health services within the context of TBI rehabilitation

Brenner LA, Homaifar BY, Wolfman JH, Kemp J, Adler LE. Suicidality and Veterans with a history of traumatic brain injury: Precipitating events, protective factors, and prevention strategies. *Rehab Psychol*. In press.

Resources

The following pages list phone numbers and websites that can be used as resources for both clinicians and care providers. Please note that website content changes frequently.

For your convenience, pages 26-29 can be photocopied and given to TBI survivors, family members, and/or caregivers.

- Page 29 lists the contact information for a toll-free national Suicide Hotline number.

Suicide Prevention Resources

National Websites:

American Association of Suicidology: http://www.suicidology.org/

American Foundation for Suicide Prevention: http://www.afsp.org/

National Suicide Prevention Lifeline: http://www.suicidepreventionlifeline.org/

Suicide Prevention Resource Center: http://www.sprc.org

VA VISN 19 Mental Illness Research Education and Clinical Center: http://www.mirecc.va.gov/visn19/

National Toll-Free Numbers:

National Suicide Prevention Lifeline:

1-800-273-TALK

This toll-free number is set up to take calls specifically from Veterans. If a Veteran calls the hotline and **selects the VA option by pushing the #1,** he or she is put in direct contact with a trained VA professional who will assess their crisis situation. These Veterans may be contacted by local VA Suicide Prevention Coordinators for follow-up care.

TBI Resources

Because details regarding support groups for TBI or Suicide often change, TBI survivors, family members, and care providers are encouraged to obtain information and inquire about local sup-port groups from these larger organizations.

National Websites:

Brain Injury Association of America: http://www.biausa.org/

Defense Centers of Excellence for Psychological Health & Traumatic Brain Injury: http://www.dcoe.health.mil/

Defense and Veterans Brain Injury Center: http://www.dvbic.org/

National Toll-Free Numbers:

National Brain Injury Information Center: 1-800-444-6443

Defense and Veterans Brain Injury Center: 1-800-870-9244

Responding to Suicide Risk

Assure the patient's immediate safety and determine most appropriate treatment setting:

Refer for mental health or assure that follow-up is made

Limit access to means of suicide

Inform and involve someone close to the patient

Increase contact and make a commitment to help patient through crisis

Suicide risk assessment:

Look for warning signs:

Threatening to hurt/kill self

Looking for ways to kill self

Seeking access to pills, weapons, or other means

Talking or writing about death, dying, or suicide

Presence of any of the above requires immediate attention and referral. Consider hospitalization for safety until compete assessment may be made.

Assess for risk and protective factors

Ask the questions:

Are you feeling hopeless about the present/future?

If yes, ask…

Have you had thoughts about taking your life?

If yes, ask…

When did you have these thoughts, and do you have a plan to take your life?

And...

Have you ever had a suicide attempt?

For any of the above, refer for mental health treatment or assure that a follow up appointment is made.

Adapted from the *VA Suicide Pocket Card,* Employee Education System at the Department of Veteran's Affairs[5]

IT
TAKES
THE
COURAGE AND STRENGTH
OF A WARRIOR
TO ASK FOR HELP.....
If you're in an emotional crisis
call 1-800-273-TALK "Press 1 for Veterans"
www.suicidepreventionlifeline.org
NATIONAL SUICIDE PREVENTION LIFELINE
Department of Veterans Affairs

Bibliography

1. Centers for Disease Control and Prevention. WISQARS website and fatal injury reports. http://webappa.cdc.gov/sasweb/ncipc/mortrate.html. Accessed October 16, 2009.
2. Kaplan MS, Huguet N, McFarland BH, Newsom JT. Suicide among male veterans: A prospective population based study. *J Epidemiol Community Health*. 2007;61:619–624.
3. Zivin K, Kim M, McCarthy J, Austin K, Hoggatt K, Walters H, et al. Suicide mortality among individuals receiving treatment for depression in the Veterans Affairs Health System: Associations with patient and treatment setting characteristics. *Am J Public Health*. 2007;27(12):1-6.
4. Maris RW, Berman AL, Silverman MM. *Comprehensive Textbook of Suicidology*. New York, NY: The Guilford Press; 2000.
5. VA Suicide Pocket Card. Employee Education System. Department of Veterans Affairs. 2007.
6. Rudd MD, Berman AL, Joiner TE Jr, Nock MK, Silverman MM, Mandrusiak M, et al. Warning signs for suicide: Theory, research and clinical applications. *Suicide Life Threat Behav*. 2006;(3):255-262.
7. Centers for Disease Control and Prevention. Facts about Traumatic Brain Injury. http://www.cdc.gov/TraumaticBrainInjury/index.html. Updated April 2008. Accessed October 16, 2009.
8. Loring DW, ed. *INS Dictionary of Neuropsychology*. New York, NY: Oxford University Press; 1999.
9. Department of Veterans Affairs and Department of Defense. VA/DOD clinical practice guideline for management of concussion/mild traumatic brain injury. http://www.healthquality.va.gov/mtbi/concussion_mtbi_full_1_0.pdf. Published April 2009. Accessed October 15, 2009.
10. Langlois JA, Rutland-Brown W, Thomas KE. *Traumatic brain injury in the United States: Emergency department visits, hospitalizations, and deaths*. Atlanta , GA: Centers for Disease Control, National Center For Injury Prevention and Control; 2004.
11. Ivins BJ, Schwab K, Warden D, Harvey S, Hoilen M, Powell J, et al. Traumatic brain injury in US army paratroopers: Prevalence and character. *J Head Trauma Rehabil*. 2003;15(6):1275-1284.
12. Warden D. Anxiety disorders: The evaluation and treatment of mental illness. Presented at: The Brain Injury Association of Colorado; 2005; Vail, CO.
13. National Institutes of Health. Consensus development conference statement: Rehabilitation of persons with traumatic brain injury. http://consensus.nih.gov/1998/1998TraumaticBrainInjury109html.htm. Published 1998. Retrieved April 5, 2006.
14. Belanger HG, Curtiss G, Demery JA, Lebowitz BK, Vanderploeg RD. Factors moderating neuropsychological outcomes following mild traumatic brain injury: A meta-analysis. *J Int Neuropsychol Soc*. 2005;3:215-227.
15. Simpson G, Tate R. Suicidality after traumatic brain injury: Demographic, injury and clinical correlates. *Psychol Med*. 2002;32:687-697.
16. Silver JM, Kramer R, Greenwald S, Weissman M. The association between head injuries and psychiatric disorders: Findings from the New Haven NIMH Epidemiological Catchment Area Study. *Brain Inj*. 2001;15(11): 935-945.

Bibliography, cont.

17. Teasdale TW, Engberg AW. Suicide after traumatic brain injury: A population study. *J Neurol Neurosurg Psychiatry*. 2001;71(4):436-440.

18. Simpson G, Tate R. Clinical features of suicide attempts after traumatic brain injury. *J Nerv Ment Dis*. 2005;13(10);680-685.

19. Kuipers P, Lancaster A. Developing a suicide prevention strategy based on the perspectives of people with brain injuries. *J Head Trauma Rehabil*. 2000;15(6):1275-1284.

20. Brenner LA, Homaifar BY, Wolfman JH, Kemp J, Adler LE. Suicidality and Veterans with a history of traumatic brain injury: Precipitating events, protective factors, and prevention strategies. *Rehab Psychol*. In press.

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