Traumatic Brain Injury and Suicide: Risk Factors and Treatment Guidelines

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Disclosure Statement

This presentation is based on work supported, in part, by the Department of Veterans Affairs, but does not necessarily represent the views of the Department of Veterans Affairs or the United States Government.
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Objectives

Identify risk factors associated with elevated suicide risk in those with TBI

Review guidelines and evidence-based strategies for assessing safety risk

Identify evidence-based means of treatment for suicide prevention
Suicide and TBI
Suicide – General Population

Worldwide, almost one million people per year die by suicide; a global mortality rate of 16 per 100,000

In the United States, suicide is the 10th leading cause of death

36,909 suicides in the U.S (an annual suicide rate of 12.0 per 100,000) (2009 CDC)

This translates to 100.8 suicides per day or 1 suicide every 14.3 minutes

22 Veterans per day die by suicide
Suicide Attempt – General Population

Ratio of 8 (suicide):1 (suicide attempt) is conservative

(Maris 2000)

Responses from the National Survey on Drug Use and Health suggest that an estimated one million adults in the US made a suicide attempt in the past year.
Veterans and Suicide

More than 60% of suicides among utilizers of VHA services are patients with a known diagnosis of a mental health condition

(Serious Mental Illness Treatment Research and Education Center)

Veterans are more likely to use firearms as a means for suicide (National Violent Death Reporting System)

Office of Patient Care Services/Office of Mental Health Services-April 2010
TBI

Among individuals with TBI, a growing body of literature has shown that for those that have sustained injuries at all levels (i.e., mild, moderate, severe) there is an increased risk for suicidal ideation, suicide attempts, and death by suicide when compared to those without TBI.
Among Veterans seeking services within the Veterans Health Administration (VHA), those with a history of mild, moderate, and severe TBI were 1.55 times more likely to die by suicide than those without a TBI.

Brenner et al (2011)
Individuals who received care between FY 01 and 06

Analyses included all patients with a history of TBI (n = 49,626) plus a 5% random sample of patients without TBI (n = 389,053)

Suicide - National Death Index (NDI) compiles death record data for all US residents from state vital statistics offices

TBI diagnoses of interest were similar to those used by Teasdale and Engberg
Suicide by TBI Severity – VHA Users FY 01-06

12,159 with concussion or cranial fracture, of which 33 died by suicide

39,545 with cerebral contusion/traumatic intracranial hemorrhage of which 78 died by suicide

Of those with a history of TBI, 105 died by suicide

Challenges associated with this type of research and need for collaboration (~8 million records reviewed)
22 Subjects

Total Number of Admissions: 114

Median Number of Admissions: 3

Range of Admissions: 1-20

A Preliminary Investigation of Suicidality in Psychiatrically Hospitalized Veterans with Traumatic Brain Injury

Peter M. Gutierrez, Lisa A. Brenner, and Joseph A. Huggins

The objective of this study was to explore suicidal behaviors documented at time of discharge from acute psychiatric hospitalization. Data from 114 acute psychiatric admissions were reviewed for 22 veterans with a history of traumatic brain injury (TBI). Information extracted included presence of suicidal ideation, nature of suicide attempts, and TBI characteristics. The Lethality of Suicide Attempts Rating Scale was used to classify veterans’ non-lethal self-harm behavior. Post-TBI, 6 patients (27.3%) made a total of 14 suicide attempts. Half of those attempts required wounds being cutted, stomach laviage, or other medical attention. Clinicians and researchers are strongly encouraged to focus increased attention on suicide prevention in those with a history of TBI.

Keywords: suicide, traumatic brain injury, veterans

Suicidal behavior has been identified as a significant problem among those with a history of traumatic brain injury (TBI). Simpson and Tate (2002) found that 23% of individuals with TBI receiving outpatient services endorsed suicidal ideation. TBI survivors also have a significantly higher rate of suicide attempts than those without such injuries (Silver, Kramer, Greenwald et al., 2001; Simpson & Tate, 2007). In a sample of individuals with mild, moderate, and severe injury, an 8.1% post-TBI lifetime rate of suicide attempts was identified, as compared with 1.9% for the general population (Silver, Kramer, Greenwald et al., 2001). Simpson and Tate (2002) reported that of those receiving outpatient services for TBI, 10.4% had pre-injury and 17.4% had post-injury suicide attempts. Individuals with a history of TBI also die by suicide more frequently than members of the general population (Teasdale & Engberg, 2001). Rates of suicide have been found to be 3.0, 27.4, and 4.1 times higher than the population on whole, depending on the type of injury sustained (i.e., concussion, cranial fracture, or cerebral contusion or traumatic intracranial hemorrhage respectively) (Teasdale & Engberg, 2004).

A possible neuropsychiatric mechanism underlying both the acquisition of TBI and risk for engaging in suicidal behavior is executive dysfunction (Fann, Leonetti, Jaffe et al., 2002; Jollant, Bellivier, Leboyer et al., 2005). The associated brain area
Are individuals with moderate to severe TBI seeking traditional psychiatric services?

TABLE 2. Characteristics of Most Recent Traumatic Brain Injuries

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Severity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mild</td>
<td>1</td>
<td>4.5</td>
</tr>
<tr>
<td>Moderate</td>
<td>11</td>
<td>50</td>
</tr>
<tr>
<td>Severe</td>
<td>10</td>
<td>45.5</td>
</tr>
<tr>
<td>Mechanism of Injury</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assault</td>
<td>6</td>
<td>27.3</td>
</tr>
<tr>
<td>MVA</td>
<td>4</td>
<td>18.2</td>
</tr>
<tr>
<td>Falls</td>
<td>3</td>
<td>13.6</td>
</tr>
<tr>
<td>Other Accidents</td>
<td>3</td>
<td>13.6</td>
</tr>
<tr>
<td>Explosion</td>
<td>2</td>
<td>9.1</td>
</tr>
<tr>
<td>MCA</td>
<td>2</td>
<td>9.1</td>
</tr>
<tr>
<td>Other(^1)</td>
<td>2</td>
<td>9.1</td>
</tr>
</tbody>
</table>

\(^1\)Pedestrian hit by car, suicide attempt; MVA = motor vehicle accident, MCA = motorcycle accident.
### TABLE 3. Characteristics of Acute Psychiatric Hospitalizations

<table>
<thead>
<tr>
<th>Variable</th>
<th>%</th>
<th>Range (Mdn)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of hospitalizations per patient</td>
<td></td>
<td>1–20 (3)</td>
</tr>
<tr>
<td><strong>Total Psychiatric Diagnoses Noted at Discharge</strong>¹</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Substance Abuse</td>
<td>73</td>
<td></td>
</tr>
<tr>
<td>Mood Disorder</td>
<td>59</td>
<td></td>
</tr>
<tr>
<td>Psychosis</td>
<td>24</td>
<td></td>
</tr>
<tr>
<td>Anxiety Disorder</td>
<td>21</td>
<td></td>
</tr>
<tr>
<td>Organic Disorder ²</td>
<td>26</td>
<td></td>
</tr>
<tr>
<td>Length of Stay (Days)</td>
<td></td>
<td>0³–120 (11)</td>
</tr>
</tbody>
</table>

¹Psychiatric diagnoses total to more than 100% due to the majority of patients receiving more than one diagnosis. ²Includes dementia and mood disorders due to general medical condition. ³Two patients were admitted and discharged on the same day.
Number of Admissions Secondary to a Suicide Attempt

“Half of the patients in the current study made suicide attempts by overdose, the majority using medications that were listed as being prescribed at time of discharge.”

11% of total admissions
Number of attempts 1-5
Median - 2

Total Number of Admissions = 122

Total Number of Admissions Secondary to a Suicide Attempt = 14
(6 patients)

Overdose - 7
Self Inflicted Wound - 6
Traumatic Injury - 1
Risk Factors for Suicide in TBI populations
Psychiatric Risk Factors

Literature Findings:
• Higher prevalence of psychiatric diagnoses in those with TBI history
• Those with TBI histories were more likely to have had a lifetime history of suicide attempt
• Mood disturbances are the most commonly reported psychiatric sequelae post-injury

A number of studies have shown that higher rates of suicidal ideation and suicidal behaviors following TBI may be related to increased rates of depression in this population
Depression and TBI

Prevalence of depression is increased at multiple time points post-injury.....

Because of high risk over an extended period, EARLY and CONTINUAL screening for depression is warranted in this population!
Depression and Hopelessness in General

Depression is a well-known suicide risk factor with over 50% of those with clinical depression experiencing suicidal ideation (SI).

Hopelessness is also a risk factor for suicidality, with greater predictive power than even depression itself. Hopelessness has been identified as a precursor to the development of SI and can also increase the risk of suicidal behavior.

In studies of depressed patients and those experiencing their first psychotic episode, interventions that reduced hopelessness demonstrated the potential to lower suicide risk.
Psychiatric Comorbidities Continued

- **TBI is linked to an increased risk of psychosis**
  - Two to five fold greater risk of developing psychotic symptoms post injury

- **PTSD frequently co-occurs with TBI**
  - Estimates in military population with mild TBI and co-occurring PTSD range from 11% to 23%
  - Relationship is complex and requires ongoing assessment of the impact of symptoms on overall functioning and quality of life
    - PTSD and TBI are mutually exacerbating
Substance Abuse and TBI

• Substance use is a major contributor to an increased risk for suicide in the general population and for those with TBI histories

• Evidence repeatedly shows that those with TBI history also have history of alcohol or drug use
  • Alcohol intoxication has been found in one-third to one-half of individuals at the time of injury
  • Individuals often return to use or increase use post-injury

Patients with TBI and substance misuse histories were four times more likely than those with TBI and no substance misuse AND seven times more likely than the general population to die by suicide.
Individuals with post-injury histories of psychiatric disturbance and substance abuse were 21 times more likely to have attempted suicide than the general population.
Hopelessness

• Hopelessness is widely observed among individuals that have sustained severe TBI.

• Simpson & Tate (2002): In the largest study conducted to date, among those with TBI between one and 10 years post-injury, 35% showed moderate to severe hopelessness.

• Simpson & Tate (2002); Simpson & Tate (2005): Hopelessness was a strong independent predictor of suicide ideation, with suicide ideation being a strong predictor of post-injury suicide attempts.
Psychosocial Risk Factors

- Unemployment
- Pain
- Unproductive coping style
- Poor quality of life
Participants: Sample of 13 Veterans with a history of TBI, and a history of clinically significant suicidal ideation or behavior.

Method: In-person interviews were conducted and data were analyzed using a hermeneutic approach.
Cognitive Impairment and Suicidality

“I knew what I wanted to say although I'd get into a thought about half-way though and it would just dissolve into my brain. I wouldn’t know where it was, what it was and five minutes later I couldn't even remember that I had a thought. And that added to a lot of frustration going on....and you know because of the condition a couple of days later you can't even remember that you were frustrated.”

“I get to the point where I fight with my memory and other things...and it’s not worth it.”
Emotional and Psychiatric Disturbances and Suicidality

“I got depressed about a lot of things and figured my wife could use a $400,000 tax-free life insurance plan a lot better than....I went jogging one morning, and was feeling this bad, and I said "well, it's going to be easy for me to slip and fall in front of this next truck that goes by..."
Loss of Sense of Self and Suicidality

Veterans spoke about a shift in their self-concepts post-injury, which was frequently associated with a sense of loss:

"...when you have a brain trauma...it's kind of like two different people that split...it’s kind of like a split personality. You have the person that’s still walking around but then you have the other person who’s the brain trauma."
Executive functioning describes a complex set of cognitive processes involved in planning, initiation, and self-regulation of goal-directed behavior.

- Injuries to the frontal lobes can result in executive dysfunction.

Several studies of suicidality in those with and without TBI have identified executive dysfunction as a contributing factor:

- Impaired decision-making
- Externally-directed aggression and impulsivity

- Lifetime aggression and impulsivity associated with violent suicide deaths (e.g., hanging, firearms, jumping from height)
- Aggression is a risk factor for both suicidal behavior and for TBI and those with TBI endorse higher levels of aggression post-injury.
Suicide Risk Assessment
Suicide Risk Assessment

Refers to the establishment of a clinical judgment of risk in the near future based on the weighing of a very large amount of available clinical detail.
Suicide Risk Assessment

A **process** in which the healthcare provider gathers clinical information in order to determine the patient’s risk for suicide.
Identify modifiable and treatable risk factors [warning signs] that inform treatment
Simon 2001

Identify protective factors

Take care of our patients

Hal Wortzel, MD
Risk management is a reality of practice
15-68% of psychiatrists have experienced a patient suicide (Alexander 2000, Chemtob 1988)

About 33% of trainees have a patient die by suicide

Paradox of training - toughest patients often come earliest in our careers

We should also assess to...

*take care of ourselves*

Hal Wortzel, MD
Is a common language necessary to facilitate suicide risk assessment?

Do we have a common language?
The Difficulty with our Terms:

Suicidal ideation
Death wish
Suicidal threat
Cry for help
Self-mutilation
Parasuicidal gesture
Suicidal gesture
Risk-taking behavior
Self-harm
Self-injury
Suicide attempt
Aborted suicide attempt
Accidental death
Unintentional suicide
Successful attempt
Completed suicide
Life-threatening behavior
Suicide-related behavior
Suicide
Develop a common language

- Commonly understood and widely acceptable
- Comprehensive
- Define the basic clinical phenomena of suicide and suicide-related behaviors
- Based on a logical set of necessary component elements that can be easily applied
Self-Directed Violence Classification System in Collaboration with the CDC

Lisa A. Brenner, Ph.D.
Morton M. Silverman, M.D.
Lisa M. Betthauser, M.B.A.
Ryan E. Breshears, Ph.D.
Katherine K. Bellon, Ph.D.
Herbert. T. Nagamoto, M.D
<table>
<thead>
<tr>
<th>Type</th>
<th>Sub-Type</th>
<th>Definition</th>
<th>Modifiers</th>
<th>Terms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thoughts</td>
<td>Non-Suicidal Self-Directed Violence Ideation</td>
<td>Self-reported thoughts regarding a person’s desire to engage in self-inflicted potentially injurious behavior. There is no evidence of suicidal intent. For example, persons engage in Non-Suicidal Self-Directed Violence Ideation in order to attain some other end (e.g., to seek help, regulate negative mood, punish others, to receive attention).</td>
<td>N/A</td>
<td>•Non-Suicidal Self-Directed Violence Ideation</td>
</tr>
<tr>
<td></td>
<td>Suicidal Ideation</td>
<td>Self-reported thoughts of engaging in suicide-related behavior. For example, intrusive thoughts of suicide without the wish to die would be classified as Suicidal Ideation, Without Intent.</td>
<td>•Suicidal Intent -Without -Undetermined -With</td>
<td>•Suicidal Ideation, Without Suicidal Intent •Suicidal Ideation, With Undetermined Suicidal Intent •Suicidal Ideation, With Suicidal Intent</td>
</tr>
<tr>
<td>Preparatory</td>
<td>Acts or preparation towards engaging in Self-Directed Violence, but before potential for injury has begun. This can include anything beyond a verbalization or thought, such as assembling a method (e.g., buying a gun, collecting pills) or preparing for one’s death by suicide (e.g., writing a suicide note, giving things away). For example, hoarding medication for the purpose of overdosing would be classified as Suicidal Self-Directed Violence, Preparatory.</td>
<td>•Suicidal Intent -Without -Undetermined -With</td>
<td>•Non-Suicidal Self-Directed Violence, Preparatory •Undetermined Self-Directed Violence, Preparatory •Suicidal Self-Directed Violence, Preparatory</td>
<td></td>
</tr>
<tr>
<td>Behaviors</td>
<td>Non-Suicidal Self-Directed Violence</td>
<td>Behavior that is self-directed and deliberately results in injury or the potential for injury to oneself. There is no evidence, whether implicit or explicit, of suicidal intent. For example, persons engage in Non-Suicidal Self-Directed Violence in order to attain some other end (e.g., to seek help, regulate negative mood, punish others, to receive attention).</td>
<td>•Injury -Without -With -Fatal •Interrupted by Self or Other</td>
<td>•Non-Suicidal Self-Directed Violence, Without Injury •Non-Suicidal Self-Directed Violence, Without Injury, Interrupted by Self or Other •Non-Suicidal Self-Directed Violence, With Injury •Non-Suicidal Self-Directed Violence, With Injury, Interrupted by Self or Other •Non-Suicidal Self-Directed Violence, Fatal</td>
</tr>
<tr>
<td></td>
<td>Undetermined Self-Directed Violence</td>
<td>Behavior that is self-directed and deliberately results in injury or the potential for injury to oneself. Suicidal intent is unclear based upon the available evidence. For example, the person is unable to admit positively to the intent to die (e.g., unconsciousness, incapacitation, intoxication, acute psychosis, disorientation, or death); OR the person is reluctant to admit positively to the intent to die for other or unknown reasons.</td>
<td>•Injury -Without -With -Fatal •Interrupted by Self or Other</td>
<td>•Undetermined Self-Directed Violence, Without Injury •Undetermined Self-Directed Violence, Without Injury, Interrupted by Self or Other •Undetermined Self-Directed Violence, With Injury •Undetermined Self-Directed Violence, With Injury, Interrupted by Self or Other •Undetermined Self-Directed Violence, Fatal</td>
</tr>
<tr>
<td></td>
<td>Suicidal Self-Directed Violence</td>
<td>Behavior that is self-directed and deliberately results in injury or the potential for injury to oneself. There is evidence, whether implicit or explicit, of suicidal intent. For example, a person with a wish to die cutting her wrist with a knife would be classified as Suicide Attempt, With Injury.</td>
<td>•Injury -Without -With -Fatal •Interrupted by Self or Other</td>
<td>•Suicide Attempt, Without Injury •Suicide Attempt, Without Injury, Interrupted by Self or Other •Suicide Attempt, With Injury •Suicide Attempt, With Injury, Interrupted by Self or Other •Suicide</td>
</tr>
</tbody>
</table>
There is past or present evidence (implicit or explicit) that an individual wishes to die, means to kill him/herself, and understands the probable consequences of his/her actions or potential actions.

Suicidal intent can be determined retrospectively and in the absence of suicidal behavior.
High Acute Risk

• **Essential features:**
  - SI with intent to die by suicide AND
  - **Inability** to maintain safety independent of external support/help

• **Likely to be present:**
  - Plan
  - Access to means
  - Recent/ongoing preparatory behaviors and/or SA
  - Acute Axis I illness (e.g., MDD episode, acute mania, acute psychosis, drug relapse)
  - Exacerbation of Axis II condition
  - Acute psychosocial stressor (e.g., job loss, relationship change)

• **Action:**
  - Psychiatric hospitalization
Intermediate Acute Risk

• **Essential features:**
  - Ability to maintain safety independent of external support/help

• **Likely to be present:**
  - May present similarly to those at high acute risk except for:
    - Lack of intent or preparatory behaviors
    - Reasons for living
    - Ability.desire to abide by Safety Plan

• **Action:**
  - Consider psychiatric hospitalization
  - Intensive outpatient management
Low Acute Risk

- **Essential features:**
  - No current intent AND
  - No suicidal plan AND
  - No preparatory behaviors AND
  - Collective high confidence (e.g., patient, care providers, family members) in the ability of the patient to independently maintain safety

- **Likely to be present:**
  - May have SI but **without** intent/plan
  - If plan is present, it is likely **vague** with **no preparatory behaviors**
  - Capable of using appropriate coping strategies
    - Willing/able to use Safety Plan

- **Action:**
  - Can be managed in primary care
  - Mental health treatment may be indicated
How to Assess Suicide Risk
Assessment and Determination of Risk

• **Gather** information related to the patient’s intent to engage in suicide-related behavior.

• **Evaluate** factors that elevate or reduce the risk of acting on that intent.

• **Integrate** all available information to determine the level of risk and appropriate care.

C. Assessment of Suicidal Ideation, Intent, and Behavior

D. Assessment of Factors that Contribute to the Risk for Suicide

E. Determine the Level of Risk
“Although self-report measures are often used as screening tools, an adequate evaluation of [suicidal thoughts and behaviors] should include both interviewer-administered and self-report measures.”

Elements of Useful Assessment Tools

Clear operational definitions of construct assessed

Focused on specific domains (suicidality?)

Developed through systematic, multistage process

- empirical support for item content, clear administration and scoring instructions, reliability, and validity

Range of normative data available

Gutierrez and Osman, 2008
Basic Considerations

Context specific
  schools, military, clinical settings

Available resources
  time, money, staffing

Infrastructure to support outcomes
  available referrals
  trained clinical staff in-house
Self-Report Measures

Advantages

• Fast and easy to administer
• Patients often more comfortable disclosing sensitive information
• Quantitative measures of risk/protective factors

Disadvantages

• Report bias
• Face validity
Evidence-Based Measures

Suicidal Ideation - Beck Scale for Suicide Ideation

Depressive Symptoms – Beck Depression Inventory II

Hopelessness - Beck Hopelessness Scale

Thoughts about the future - Suicide Cognitions Scale

History of Suicide - Related Behaviors - Self-Harm Behavior Questionnaire

Protective Factors - Reasons for Living Inventory
<table>
<thead>
<tr>
<th>Beck Scale for Suicidal Ideation (BSS)</th>
<th>Beck Hopelessness Scale (BHS)</th>
<th>Reasons for Living Inventory (RFL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>21-item scale used to assess the severity of suicidal</td>
<td>20-true/false items that assesses hopelessness</td>
<td>48-item scale to assess the reasons for living</td>
</tr>
<tr>
<td>ideation within the past week</td>
<td>within the past week</td>
<td>that may serve a protective function for those</td>
</tr>
<tr>
<td></td>
<td></td>
<td>at risk</td>
</tr>
<tr>
<td>5 minutes</td>
<td>5 minutes</td>
<td>10 minutes</td>
</tr>
</tbody>
</table>

Beck, Steer & Ranieri, 1988; Beck and Steer, 1988; Linehan et al, 1983
What are the key components?

Suicide focused clinical interview

Psychological/Psychiatric Evaluation
Suicide Risk Factors
What is a Suicide Risk Factor?
A major focus of research for past 30 years

Demographic (e.g., male gender, age over 65, Caucasian)

Psychosocial (e.g., diagnosed serious mental illness, loss of significant relationship, impulsivity)

Past history (e.g., suicide attempt, sexual or physical abuse)
Risk Factors

Overall level of clinical concern about an individual

Guide screening and assessment efforts

Developing models to explain suicide

Distal to suicidal behavior

May or may not be modifiable

Risk factors do not predict individual behavior
Determine if Risk Factors are Modifiable

**Non-Modifiable Risk Factors**
- Family History
- Past History
- Demographics

**Modifiable Risk Factors**
- Psychiatric symptoms
- Social Support
- Access to Lethal Means
Suicide Warning Signs
Warning Signs

Person-specific emotions, thoughts, or behaviors precipitating suicidal behavior

- Thoughts of suicide
- Thoughts of death
- Sudden changes in personality, behavior, eating or sleeping patterns

Proximal to the suicidal behavior and imply imminent risk

Rudd et al. 2006
Other Potential Warning Signs

**Substance abuse** – increasing or excessive substance use

**Hopelessness** – feels that nothing can be done to improve the situation

**Purposelessness** – no sense of purpose, no reason for living

**Anger** – rage, seeking revenge

**Recklessness** – engaging impulsively in risky behavior

**Feeling Trapped** – feelings of being trapped with no way out

**Social Withdrawal** – withdrawing from family, friends, society

**Anxiety** – agitation, irritability, feeling like wants to “jump out of my skin”

**Mood changes** – dramatic changes in mood, lack of interest in usual activities

**Sleep Disturbances** – insomnia, unable to sleep or sleeping all the time

**Guilt or Shame** – Expressing overwhelming self-blame or remorse
## Risk Factors vs. Warning Signs

<table>
<thead>
<tr>
<th>Characteristic Feature</th>
<th>Risk Factor</th>
<th>Warning Sign</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relationship to Suicide</td>
<td>Distal</td>
<td>Proximal</td>
</tr>
<tr>
<td>Empirical Support</td>
<td>Evidence-base</td>
<td>Clinically derived</td>
</tr>
<tr>
<td>Timeframe</td>
<td>Enduring</td>
<td>Imminent</td>
</tr>
<tr>
<td>Nature of Occurrence</td>
<td>Relatively stable</td>
<td>Transient</td>
</tr>
<tr>
<td>Implications for Clinical Practice</td>
<td>At times limited</td>
<td>Demands intervention</td>
</tr>
</tbody>
</table>

Rudd et al. 2006
## Risk Factors vs. Warning Signs

### Risk Factors
- Suicidal ideas/behaviors
- Psychiatric diagnoses
- Physical illness
- Childhood trauma
- Genetic/family effects
- Psychological features (i.e. psychosis, hopelessness)
- Cognitive features
- Demographic features
- Access to means
- Substance intoxication
- Poor therapeutic relationship

### Warning Signs
- Threatening to hurt or kill self or talking of wanting to hurt or kill him/herself
- Seeking access to lethal means
- Talking or writing about death, dying or suicide
- Increased substance (alcohol or drug) use
- No reason for living; no sense of purpose in life
- Feeling trapped - like there’s no way out
- Anxiety, agitation, unable to sleep
- Hopelessness
- Withdrawal, isolation
Warning Signs of Acute Risk:

- Threatening to hurt or kill him or herself, or talking of wanting to hurt or kill him/herself; and/or,
- Looking for ways to kill him/herself by seeking access to firearms, available pills, or other means; and/or,
- Talking or writing about death, dying or suicide, when these actions are out of the ordinary.

http://www.suicidology.org/web/guest/stats-and-tools/warning-signs
Additional Warning Signs:

- Increased **substance** (alcohol or drug) **use**
- No reason for living; no sense of **purpose** in life
- Rage, uncontrolled **anger**, seeking revenge
- Acting **reckless** or engaging in risky activities, seemingly without thinking

Dramatic **mood changes**

**Anxiety**, agitation, unable to sleep or sleeping all the time

Feeling **trapped** - like there’s no way out

**Hopelessness**

**Withdrawal** from friends, family and society

http://www.suicidology.org/web/guest/stats-and-tools/warning-signs
RESPONDING TO SUICIDE RISK

ASSURE THE PATIENT’S IMMEDIATE SAFETY AND DETERMINE MOST APPROPRIATE TREATMENT SETTING

- Refer for mental health treatment or assure that follow-up appointment is made
- Inform and involve someone close to the patient
- Limit access to means of suicide
- Increase contact and make a commitment to help the patient through the crisis

PROVIDE NUMBER OF ER/URGENT CARE CENTER TO PATIENT AND SIGNIFICANT OTHER

National Suicide Hotline Resource:

1 - 800 - 273 - TALK (8255)

References:
Rudd et al, Warning signs for suicide: theory, research and clinical applications. Suicide and Life Threatening Behavior, 2006 June36 (3)256-62.

SUICIDE RISK ASSESSMENT GUIDE

All patients who present with positive depression screens, history of mental health diagnosis or with any of the Warning Signs listed below should be further assessed for suicide risk.

LOOK for the warning signs. ASSESS for risk and protective factors. ASK the questions.

LOOK FOR THE WARNING SIGNS

- Threatening to hurt or 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 warning signs requires immediate attention and referral. Consider hospitalization for safety until complete assessment may be made.

Additional Warning Signs

- Hopelessness
- Rage, anger, seeking revenge
- Acting reckless or engaging in risky activities, seemingly without thinking
- Feeling trapped – like there’s no way out
- Increasing alcohol or drug abuse
- Withdrawing from friends, family and society
- Anxiety, agitation, unable to sleep or sleeping all the time
- Dramatic changes in mood
- No reason for living, no sense of purpose in life

For any of the above, refer for mental health treatment or follow-up appointment.
ASSESS FOR SPECIFIC FACTORS THAT MAY INCREASE OR DECREASE RISK FOR SUICIDE

FACTORS THAT MAY INCREASE RISK
- Current ideation, intent, plan, access to means
- Previous suicide attempt or attempts
- Alcohol/Substance abuse
- Previous history of psychiatric diagnosis
- Impulsivity and poor self-control
- Hopelessness – presence, duration, severity
- Recent losses – physical, financial, personal
- Recent discharge from an inpatient unit
- Family history of suicide
- History of abuse (physical, sexual or emotional)
- Co-morbid health problems, especially a newly diagnosed problem or worsening symptoms
- Age, gender, race (elderly or young adult, unmarried, white, male, living alone)
- Same-sex sexual orientation

FACTORS THAT MAY DECREASE RISK
- Positive social support
- Spirituality
- Sense of responsibility to family
- Children in the home, pregnancy
- Life satisfaction
- Reality testing ability
- Positive coping skills
- Positive problem-solving skills
- Positive therapeutic relationship

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?

Have you ever had a suicide attempt?
Case Example

Image from DoD: www.defense.gov
What’s the Risk?

- 29 y/o female
- 18 suicide attempts and chronic SI
  - Currently reports below baseline SI & stable mood
- Numerous psychiatric admissions
- Family history of suicide
- Owns a gun
- Intermittent homelessness
  - Currently reports having stable housing
- Alcohol dependence
  - Has sustained sobriety for 6 months
- Borderline Personality Disorder
Stratify Risk – Severity & Temporality

Low

Intermediate

High

Acute

Chronic
Documentation

Although patient carries many static risk factors placing her at *high chronic risk* for engaging in suicidal behaviors, her present mood, stable housing, sustained sobriety, and SI below baseline and no current intent suggest *low acute/imminent risk* for suicidal behavior.

Ideation → Intent → Plan → Access to Means
Intervention
Preventing suicide after traumatic brain injury: implications for general practice

Grahame K Simpson and Robyn L Tate

2 Suicide prevention strategies for general practitioners managing patients with traumatic brain injury (TBI)*

<table>
<thead>
<tr>
<th>Level of intervention</th>
<th>Clinical management</th>
</tr>
</thead>
</table>
| Universal             | • Assess hopelessness and suicide ideation proactively, using indirect or direct approaches  
                         | • Monitor for warning signs that may increase risk level                                |
|                       | • Recognise that people may be at risk regardless of time post-injury                  |
|                       | • Make provision for the availability of long-term support                               |
|                       | • Monitor males and females equally                                                   |
| Selected              | • Treat people with depressive or substance misuse conditions                           |
| People with TBI in “at-risk” groups | • Monitor people with comorbid psychiatric conditions and those injured as the result of a suicide attempt |
| Indicated             | • Reduce the lethality of the environment                                             |
| People with TBI for whom suicide is an identified issue (eg, made attempt, expressed suicide ideation) | • Provide frontline treatments (pharmacotherapy)                                        |
|                       | • In managing someone with a history of any attempts, plan for the possibility that people may use more than one method |
|                       | • Provide support/monitor for at least 12 months after a suicide attempt                |
|                       | • Closely monitor in the months after discharge from a psychiatric hospital            |

* Adapted from the United States Institute of Medicine generic suicide prevention model.21
Safety Planning and Suicide Prevention – A Function-Based Intervention
Safety Plan Treatment Manual to Reduce Suicide Risk:
Veteran Version

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Gregory K. Brown, Ph.D.²

In collaboration with Bradley Karlin, Ph.D.³, Janet E. Kemp, Ph.D.⁴
and Heather A. VonBergen, Ph.D.⁴

¹Suicide Intervention Center, Department of Psychiatry, Columbia University and New York State Psychiatric Institute
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³Office of Mental Health Services, VA Central Office
⁴Center of Excellence at Canandaigua, VA Medical Center

VA Safety Plan: Brief Instructions

Step 1: Recognizing Warning Signs
- Ask “How will you know when the safety plan should be used?”
- Ask, “What do you experience when you start to think about suicide or feel extremely distressed?”
- List warning signs (thoughts, images, thinking processes, mood, and/or behaviors) using the patients’ own words.

Step 2: Using Internal Coping Strategies
- Ask “What can you do, on your own, if you become suicidal again, to help yourself not to act on your thoughts or urges?”
- Ask “How likely do you think you would be able to do this step during a time of crisis?”
- If doubt about using coping strategies is expressed, ask “What might stand in the way of you thinking of these activities or doing them if you think of them?”
- Use a collaborative, problem solving approach to ensure that potential roadblocks are addressed and/or that alternative coping strategies are identified.

Step 3: Social Contacts Who May Distract from the Crisis
- Instruct patients to use Step 3 if Step 2 does not resolve the crisis or lower risk.
- Ask “Who or what social settings help you take your mind off your problems at least for a little while? Who helps you feel better when you socialize with them?”
- Ask patients to list several people and social settings, in case the first option is unavailable.
- Ask for safe places they can go to be around people, e.g. coffee shop.
- Remember, in this step, suicidal thoughts and feelings are not revealed.

Step 4: Contacting Family Members or Friends Who May Offer Help to Resolve a Crisis
- Instruct patients to use Step 4 if Step 3 does not resolve the crisis or lower risk.
- Ask “Among your family or friends, who do you think you could contact for help during a crisis?” or “Who is supportive of you and who do you feel that you can talk with when you’re under stress?”
- Ask patients to list several people, in case they cannot reach the first person on the list. Prioritize the list. In this step, unlike the previous step, patients reveal they are in crisis.
- Ask “How likely would you be willing to contact these individuals?”
- If doubt is expressed about contacting individuals, identify potential obstacles and problem solve ways to overcome them.

Step 5: Contacting Professionals and Agencies
- Instruct patients to use Step 5 if Step 4 does not resolve the crisis or lower risk.
- Ask “Who are the mental health professionals that we should identify to be on your safety plan?” and “Are there other health care providers?”
- List names, numbers and/or locations of clinicians, local urgent care services, VA Suicide Prevention Coordinator, VA Suicide Prevention Hotline (1-800-273-TALK (8255))
- If doubt is expressed about contacting individuals, identify potential obstacles and problem solve ways to overcome them.

Step 6: Reducing the Potential for Use of Lethal Means
- The clinician should ask patients which means they would consider using during a suicidal crisis and collaboratively identify ways to secure or limit access to these means.
- For methods with low lethality, clinicians may ask veterans to remove or restrict their access to these methods themselves.
- Restricting the veterans’ access to a highly lethal method should be done by a designated, responsible person—usually a family member or close friend, or the police.
Major Challenges

1. How can a patient manage a suicidal crisis in the moment that it happens?

2. How can a clinician help the patient to do this?
Suicide Risk Assessment

Mental Health Referral / Treatment
Problems with This Approach

Individually often do not have a way to manage their crises

Many of these individuals may not engage in follow-up treatment
No Suicide Contracts

No-suicide contracts ask patients to promise to stay alive without telling them how to stay alive.

No-suicide contracts may provide a false sense of assurance to the clinician.

Up to 79% of mental health professionals report using them despite there being no empirical support regarding their effectiveness (Drew, 1999; Rudd et al., 2006).
No-Suicide Contracts - Reasons to **Not** Use Them

- **Medicolegal**
  - Not legally binding; no protection against malpractice (Stanford et al., 1994; Simon, 1999)
  - Erroneous to believe it can prevent suicide (Simon, 1999)

- **Provider-specific**
  - False sense of security (Simon, 1999)
  - Absence of therapeutic relationship (Simon, 1999)

- **Patient-centered**
  - Concern that provider only worried about legal protection (Range et al., 2002)
  - Could discourage open disclosure of thoughts, plan, etc. (Range et al., 2002)
Suicide Risk Assessment

Safety Plan

Mental Health Referral / Treatment
What is a Safety Plan?

Prioritized written list of coping strategies and resources for use during a suicidal crisis

Helps provide a sense of control

Uses a brief, easy-to-read format that uses the patients’ own words

Involves a commitment to treatment process (and staying alive)
When Is It Appropriate?

A safety plan may be done at any point during the assessment or treatment process.

Usually follows a suicide risk assessment.

Safety Plan may not be appropriate when patients are at imminent suicide risk or

The clinician should adapt the approach to the individual's needs -- such as involving family members in using the safety plan.
If Safety Plans are used BEFORE a crisis, they have the best chance of working.

Not an ideal time to use a Safety Plan.
Clinician and patient should sit side-by-side, use a problem solving approach, and focus on developing the safety plan.

Safety plan should be completed using a form with the patient.
# SIX STEPS FOR COMPLETING A SAFETY PLAN

<table>
<thead>
<tr>
<th>Step Number</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Recognizing warning signs</td>
</tr>
<tr>
<td>2</td>
<td>Using internal coping strategies</td>
</tr>
<tr>
<td>3</td>
<td>Utilizing social contacts that can serve as a distraction from suicidal thoughts and who may offer support</td>
</tr>
<tr>
<td>4</td>
<td>Contacting family members or friends to offer help to resolve the crisis</td>
</tr>
<tr>
<td>5</td>
<td>Contacting professionals and agencies</td>
</tr>
<tr>
<td>6</td>
<td>Reducing the potential for use of lethal methods</td>
</tr>
</tbody>
</table>
Step 1: Recognizing Warning Signs

Safety plan is only useful if the patient can recognize the warning signs

The clinician should obtain an accurate account of the events that transpired before, during, and after the most recent suicidal crisis

Ask “How will you know when the safety plan should be used?”
Step 1: Recognizing Warning Signs

Ask, “What do you experience when you start to think about suicide or feel extremely distressed?”

Write down the warning signs (thoughts, images, thinking processes, mood, and/or behaviors) using the patients’ own words.
Step 1: Recognizing Warning Signs Examples

Automatic Thoughts

- "I am a nobody"
- "I am a failure"
- "I don’t make a difference"
- "I am worthless"
- "I can’t cope with my problems"
- "Things aren’t going to get better"

Images

- "Flashbacks"
### Written Responses

<table>
<thead>
<tr>
<th>Step 1: Warning Signs</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Needing to be alone</td>
</tr>
<tr>
<td>2. Having a few too many drinks</td>
</tr>
<tr>
<td>3. Feeling kinda numb</td>
</tr>
</tbody>
</table>
Step 2: Using Internal Coping Strategies

List activities that patients can do without contacting another person.

Activities function as a way to help patients take their minds off their problems and promote meaning in the patient’s life.

Coping strategies prevent suicide ideation from escalating.
Step 2: Using Internal Coping Strategies

• It is useful to have patients try to cope on their own with their suicidal feelings, even if it is just for a brief time.

• Ask “What can you do, on your own, if you become suicidal again, to help yourself not to act on your thoughts or urges?”
Step 2: Using Internal Coping Strategies

Examples:

- Going for a walk
- Listening to inspirational music
- Taking a hot shower
- Walking the dog
Step 2: Using Internal Coping Strategies

Ask “How likely do you think you would be able to do this step during a time of crisis?”

Ask “What might stand in the way of you thinking of these activities or doing them if you think of them?”

Use a collaborative, problem solving approach to address potential roadblocks
### Written Responses

<table>
<thead>
<tr>
<th>Step 2: Internal Coping Strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. [Go lift at the gym]</td>
</tr>
<tr>
<td>2. [Watch sports]</td>
</tr>
<tr>
<td>3. [Play drums]</td>
</tr>
<tr>
<td>4. [Go for a walk]</td>
</tr>
</tbody>
</table>
Step 3: Socializing with Family Members or Others

Coach patients to use Step 3 if Step 2 does not resolve the crisis or lower risk

Family, friends, or acquaintances who may offer support and distraction from the crisis
Step 3: Socializing with Family Members or Others

Ask “Who do you enjoy socializing with?”

Ask “Who helps you take your mind off your problems at least for a little while?”

Ask patients to list several people, in case they cannot reach the first person on the list.
### Written Responses

<table>
<thead>
<tr>
<th>Step 3: Socializing with family members or others</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Go to the coffee shop</td>
</tr>
<tr>
<td>2. Call my uncle 714-555-3868</td>
</tr>
<tr>
<td>3. Go to the grocery store</td>
</tr>
</tbody>
</table>
Step 4: Contacting Family Members or Friends for Help

Coach patients to use Step 4 if Step 3 does not resolve the crisis or lower risk

Ask “How likely would you be willing to contact these individuals?”

Identify potential obstacles and problem solve ways to overcome them
### Written Responses

**Step 4: Contacting family members or friends for help**

1. **Call my mom** 555-4321
2. **Call my uncle** 714-555-3868
Step 5: Contacting Professionals and Agencies

Coach patients to use Step 5 if Step 4 does not resolve the crisis or lower risk

Ask “Which clinicians should be on your safety plan?” Identify potential obstacles and develop ways to overcome them
Step 5: Contacting Professionals and Agencies

List names, numbers and/or locations of:

— Clinicians
— Local urgent care services
— Crisis Prevention Hotline
  
  • 1-800-273-TALK (8255), press “1” if veteran
### Written Responses

<table>
<thead>
<tr>
<th>Step 5: Contacting Professionals and Agencies</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Call Dr. Bills 555-3434</td>
</tr>
<tr>
<td>2. Go to Local VA Urgent Care</td>
</tr>
<tr>
<td>3. 1-800-273-TALK (8255) push 1</td>
</tr>
</tbody>
</table>
Step 6: Reducing the Potential for Use of Lethal Means

Ask patients what means they would consider using during a suicidal crisis.

Regardless, the clinician should always ask whether the individual has access to a firearm.
Step 6: Reducing the Potential for Use of Lethal Means

For methods with **low lethality**, clinicians may ask veterans to remove or restrict their access to these methods themselves.

- For example, if patients are considering overdosing, discuss throwing out any unnecessary medication.
Step 6: Reducing the Potential for Use of Lethal Means

For methods with high lethality, collaboratively identify ways for a responsible person to secure or limit access.

For example, if patients are considering shooting themselves, suggest that they ask a trusted family member to store the gun in a secure place.
Written Responses

<table>
<thead>
<tr>
<th>Step 6: Reducing the Potential for use of Lethal Means</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. <strong>Ask wife to give the gun to her brother until her father can get it</strong></td>
</tr>
</tbody>
</table>
Implementation: What is the Likelihood of Use?

1. Ask: “Where will you keep your safety plan?”

1. Ask: “How likely is it that you will use the Safety Plan when you notice the warning signs that we have discussed?”
Implementation: What is the Likelihood of Use?

3. Ask: “What might get in the way or serve as a barrier to your using the safety plan?”
   - Help the patient find ways to overcome these barriers
   - May be adapted for brief crisis cards, cell phones or other portable electronic devices – must be readily accessible and easy-to-use
Implementation: Review the Safety Plan Periodically

Periodically review, discuss, and possibly revise the safety plan after each time it is used.

The plan is not a static document.

It should be revised as person's circumstances and needs change over time.
Inclusive Strategies to Facilitate Safety Planning with TBI Patients:

- Slow pace of conversation to facilitate learning and memory

- Use patients language to reduce miscommunication establish rapport

- Take short breaks to prevent cognitive overload and increase opportunities for consolidation of information

Signoracci et al, 2014
Inclusive Strategies to Facilitate Safety Planning with TBI Patients

• Write things down/draw (e.g., timelines) collaboratively with patient to facilitate memory and to facilitate understanding of events that may precede suicidal ideation or behavior

• Utilize visual cues like posting safety plan or pictures that represent protective factors to help prompt patient to engage in coping strategies

• Incorporate supports proactively and consistently to reduce isolation and increase engagement in coping strategies
Inclusive Strategies to Facilitate Safety Planning with TBI Patients

- As the patient to provide summaries/articulate their understanding of information; ask them to summarize their plans in specific and concrete ways.

- Role play to practice and problem-solve with support and to identify or modify challenges/barriers.

- Utilize patient identified coping strategies and work collaboratively to increase the likelihood of planning engagement.
Promising or Emerging Interventions for those without a History of Neurodegenerative Disease

<table>
<thead>
<tr>
<th>Intervention</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brief Psychological Intervention after Deliberate Self-Poisoning</td>
</tr>
<tr>
<td>Collaborative Assessment and Management for Suicide (CAMS)</td>
</tr>
<tr>
<td>Cognitive Behavioral Therapy (CBT) for Suicide Prevention</td>
</tr>
<tr>
<td>Dialectic Behavioral Therapy (DBT)</td>
</tr>
<tr>
<td>Mentalization Based Treatment (MBT)</td>
</tr>
<tr>
<td>Problem Solving Therapy (PST)</td>
</tr>
</tbody>
</table>

The following EBPs have been found to be efficacious in reducing suicidal behaviors.

- Cognitive Behavioral Therapy (CBT)
- Problem-Solving Therapy (PST)
- Dialectical Behavior Therapy (DBT)
Concluding Remarks
Suicide is a rare event

No standard of care for the prediction of suicide

Efforts at prediction yield lots of false-positives as well as some false-negatives

Structured scales may augment, but do not replace systematic risk assessment

Actuarial analysis does not reveal specific treatable risk factors or modifiable protective factors for individual patients
Guiding Principles

• **Standard of care does require suicide risk assessment whenever indicated**

• **Best assessments will attend to warning signs, and risk and protective factors**

• **Risk assessment is not an event, it is a process**
  • Inductive process to generate specific patient data to guide clinical judgment, treatment, and management
Additional Resources
National Suicide Risk Management Consultation Program

Email: srmconsult@va.gov or Call: (866) 948-7880 to Schedule a Consult

http://www.mirecc.va.gov/visn19/consult/index.asp
Resources

VISN 19 MIRECC
http://www.mirecc.va.gov/visn19/

VA Safety Planning Manual
www.mentalhealth.va.gov/docs/VA_Safety_planning_manual.doc
A Self-Care Tool for Clinicians

- Provides tools to guard against burnout and compassion fatigue.
- Videos by service members describing the positive impact health care providers had in their lives are there when you need a reminder of the value of what you do.

http://t2health.org/apps/provider-resilience#.UjqbNhaCIIl
Mobile Apps
Mobile Safety Planning

**MY3**

- Includes: A safety plan page where users can customize a step-by-step plan that they can refer to when they are experiencing thoughts of suicide.
- The My3 plan is modeled after a plan originally developed by Drs. Barbara Stanley and Gregory Brown.
Mobile Safety Planning

Virtual Hope Box

• VHB contains simple tools to help patients with coping, relaxation, distraction and positive thinking
Mobile Safety Planning
Virtual Hope Box
Mobile Applications

Breathe2Relax

• Breathe2Relax is a portable stress management tool--hands-on diaphragmatic breathing exercise.
• Users can record their stress level on a 'visual analogue scale' by simply swiping a small bar to the left or to the right.

http://t2health.org/apps/breathe2relax#.UjqUbxCLI1I
Mobile Applications

LifeArmor

• Brief self-assessments help the user measure and track their symptoms, and tools are available to assist with managing specific problems, including sleep, depression, relationship issues, and post-traumatic stress.
Mobile Applications

Positive Activity Jackpot

• Uses augmented reality technology to combine a phone’s GPS and camera to find nearby enjoyable activities or pleasant diversions.

Clinician’s guide available for download
THANK YOU

Jennifer H. Olson-Madden, PhD

jennifer.olson-madden@va.gov

http://www.mirecc.va.gov/visn19/