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Self-harm in the Emergency Department: A Cry for Help, a Call to Arms

How's this for a practice gap? It's estimated that 1 in 10 suicide victims are people seen in the emergency department within 2 months of dying. Suicide is an issue of public health, which, in today's medical system, is often the domain of the emergency physician (EP).

Practically speaking, the questions useful for the emergency physician are: Which patients are at risk of suicide? Who stays, and who goes home? And in a broader sense, what can an emergency physician do to prevent successful suicide?

—J. Stephan Stapczynski, MD, Editor

Clinical Scenario

You are working a typical shift: Three patients have not been seen, the waiting room has four patients to be brought back, and you are just talking with a new patient when the triage nurse comes to you about a middle-aged patient whom she is seeing. The patient came by bus because she was feeling depressed and had thoughts of not living anymore. She has a history of depression and was under treatment, but has been out of work, out of medical insurance, and out of medications for over six months. Now that she is in the ED, she feels embarrassed and knows the wait will be a few hours, so she wants to leave. The triage nurse is asking what she should do. And you say?

Definition

The definition of self-harm is multi-faceted. In the emergency department (ED), an important distinction is between self-harm with and without intent to die.

The American Psychiatric Association (APA) offers a basic classification of terms.[1] Suicidal ideation involves thoughts of serving as the agent of one's own death, and it may vary in gravity depending on the specificity of suicide plans and the degree of suicidal intent. The lethality of suicidal behavior is the objective danger to life associated with a suicide method or action as determined by the physician and is distinct from and may not always coincide with an individual's expectation of what is medically dangerous. For example, a patient may believe that swallowing a handful of Tylenol is no more lethal than ingesting a tube of toothpaste. Suicidal intent is subjective expectation and desire for a self-destructive act to end in death. Suicide, itself, is defined as self-inflicted death with evidence (either explicit or implicit) that the person intended to die, while a suicide attempt is self-injurious behavior with a nonfatal outcome, accompanied by evidence (either explicit or implicit) that the person intended to die. An aborted suicide attempt implies that the person intended to die but stopped the attempt before physical damage occurred. In contrast, deliberate self-harm is willful self-inflicting of painful, destructive, or injurious acts without intent to die.

Executive Summary

- Recognize behaviors and conditions associated with an increased risk of suicide.
- The patient must be medically stable, not intoxicated, and with a normal mental status for the most accurate assessment.
- Use a structured evaluation tool, such as the SAD PERSONS scale.
- Discharge the patient into a supportive social situation and with mental health follow-up.

Circumstances vary among patients who present to the ED with evidence of self-harm. Some are seemingly trivial acts that mask serious, underlying suicidal intent. Others are dramatic gestures intended to garner secondary gain. In general, these self-destructive behaviors exist along a continuum, and emergency providers should take all patients seriously.

Epidemiology

At first glance, it may seem callous to consider a topic such as suicide in a mathematical and scientific manner. But the numbers help to show the significance of the problems. More than 33,000 Americans age 10 years or older die by suicide each year, making it the eleventh leading cause of death and fifth leading cause of years of potential life lost before age 65.[2] Data from 2008 show that an estimated 8.3 million Americans had serious thoughts of suicide, and 900,000 made suicide plans and attempts.[3] (*See Table 1.*) Anywhere from 395,000 to 535,000 people with self-inflicted injuries are treated in emergency departments every year,[2,4] and the emergency department is the most common service used by people who harm themselves.[2,4] Clearly, the scope of this problem is immense.

Data from the CDC indicates that suicide rates were gradually decreasing in the 1990s, but have since leveled off and are actually increasing among females. And while the rate of suicide is almost four times higher in males,[2] some data suggest that females are more likely to think about, plan, and attempt suicide.[3]

Classically, older age has been associated with increased suicide risk, but recent trends show that, in both men and women older than 65, suicide rates have dropped dramatically. At the same time, rates have risen in people 25-64 years old, which now is the age group with the highest suicide rate.[2] Women between the ages of 25 and 64 appear to have the sharpest increase in rate of suicide.[2] And while people younger than age 25 have the lowest rates, suicide ranks as the third leading cause of death in people 10-24 years old.[2]

Males are more likely to use a firearm, while females resort to poisoning as their primary means. However, this trend varies by age, with people 10-24 more likely to die by suffocation and older people (especially men older than 65) more likely to use a firearm.[2] The relative fatality of these methods has also been compared. Firearms and suffocation tend to be more fatal than poisoning or cutting. Falling is not a common method, but it tends to be relatively fatal. Case fatality is higher among males. It is important to consider the potential lethality of these processes when patients in the ED propose suicide plans.

Geographic location and ethnicity factor into suicide risk, as well. High-risk areas include the western and northwestern states, as well as the central part of the Midwest and certain parts of Florida and Michigan. Native Americans/Alaskans and Caucasians are almost three times as likely to commit suicide as people of other races.[2]

While age, sex, race, means of self-harm, and geographic location are all important in determining a patient's suicide risk, perhaps most relevant is the CDC's data regarding circumstances surrounding those who have committed suicide. Almost half (43.6%) of suicide victims had depressed mood at the time of their death, while 41.9 % had concurrent mental illness (twice as common in females). Female victims also were twice as likely to have had previous attempts. About one-third of victims had intimate partner problems, either left a suicide note or otherwise let their intent be known, or experienced crisis within the preceding 2 weeks. When patients present with self-injurious behavior or intent, determine whether these circumstances exist. These data can be used both to identify risk factors and protective factors and to differentiate patients who warrant intervention from those who can be sent home.

Etiology

Suicide victims may or may not leave a note explaining why they committed the act. In fact, people have many reasons for thinking about and committing acts of self-harm. Usually, they are depressed individuals who are overwhelmed by feelings of hopelessness, guilt, or self-loathing. Some are seeking refuge from chronic pain or terminal illness, while others may have a mental illness that causes them to commit such acts. Often, suicide is attempted due to intense feelings of anger and can lead to murder-suicide, coinciding sex crimes, and other violent behavior. Chronic loneliness during childhood and history of sexual molestation are thought to lead to suicidal behavior later in life. Medications, like reserpine, benzodiazepines, barbiturates, and even some antidepressants, have

Table 1. Suicidal Thoughts and Behaviors in the Past Year Among Adults: 2008

Suicidal Thoughts and Behavior	Number (in millions)
Serious thoughts of suicide	8.3
Made a suicide plan	2.3
Made a suicide plan and made suicide attempt	0.9
Made suicide plan but did not make suicide attempt	1.4
Did not make a suicide plan	6.0
Did not make a suicide plan but made suicide attempt	0.2
Did not make suicide plan and did not make suicide attempt	5.8
Source: 2008 SAMHSA National Survey on Drug Use and Health (NSDUH)	

been implicated, as well. During the past several years, the FDA has issued a series of warnings concerning the potential of various medications to lead to thoughts of suicide. (*See Table 2.*) The magnitude of this effect and its consequences have been debated by the various experts. The risk appears higher in children, adolescents, and adults younger than 24 years. The practical implications of the FDA warnings are that patients should be informed of this potential when started on these medications. Whatever the reason, it's thought that most people who think about suicide also maintain some sort of desire to live, which may be what brings them to the ED.[5]

For the EP, it is important to view the causes of suicidal behavior in terms of risk factors. (*See Table 3.*) The CDC has summarized the risk factors as follows:

- family history of suicide
- family history of child maltreatment
- previous suicide attempt(s)
- history of mental disorders, particularly depression
- history of alcohol and substance abuse
- feelings of hopelessness
- impulsive or aggressive tendencies
- cultural and religious beliefs (e.g., belief that suicide is a noble resolution of a personal dilemma)
- local epidemics of suicide
- isolation, a feeling of being cut off from other people
- barriers to accessing mental health treatment
- loss (relational, social, work, or financial)
- physical illness
- easy access to lethal methods
- unwillingness to seek help because of the stigma attached to mental health and substance abuse disorders or to suicidal thoughts.

These lists of risk factors do little to help the clinician with risk assessment, especially in a fast-paced environment like the ED, so attempts have been made to weigh the relative importance of these risk factors. The Suicide Resource Prevention Center (SRPC) has compiled "A Guide for ED Evaluation and Triage." This guide points out "signs of acute suicide risk," which include talking about suicide/thoughts of suicide, seeking lethal means to kill oneself, seeing no reason to live, anxiety/agitation, insomnia, substance abuse, hopelessness, social withdrawal, anger, recklessness, mood changes, previous attempt, triggering event (loss of relationship or job), and access to firearms. Among psychiatrists, the factors listed below have been touted as fundamental to risk assessment.[6]

Evidence suggests that more than 90% of suicide victims have a DSM-IV diagnosis, such as major depression, bipolar depression, schizophrenia, alcohol or drug abuse, post-traumatic stress disorder, anxiety disorder, bulimia or anorexia nervosa, or personality disorder (especially borderline or antisocial).[7-9] Of these, mood disorders are most common. Patients with major depression are 20 times more likely to commit suicide than those without depression, and 15-20% do commit suicide, with hopelessness being the most ominous symptom.[10-16] People with schizophrenia are almost 10 times more likely to commit suicide than those without the condition, and while providers should be wary of command hallucinations, suicide in these patients is more likely due to negative symptoms, such as hopelessness.[17-21] Personality disorders are present in 40% of suicide victims.[12] And while many psychiatric disorders increase the odds of having thoughts of suicide, recent evidence suggests that, after controlling for mental illness, only disorders characterized by anxiety and poor impulse-control predict which people act on their thoughts.[22,23] Physicians should consider suicidal behavior in any patient with a psychiatric diagnosis to be a red flag.

Alcohol has been shown to increase the risk of suicide at least six-fold, especially when consumed in large amounts, while use of other drugs increases suicide risk to a lesser extent.[24-28] While it may be difficult to screen every alcohol and drug abuser who walks through the door, think about suicide in these patients, particularly if mechanism of injury suggests self-harm.

It also is important to take note of certain historical points. Patients often mention a recent stressor or precipitant event, such as family turmoil or instability, health problems, loss of a relationship, or loss of money or employment.[29] Higher suicide rates have been observed in those who are unemployed and underprivileged.[30] These stressors may bring them to their primary care

Table 2. Medications that Carry FDA Warning About Their Potential to Increase the Risk of Suicide

Antismoking Agents
• Varenicline (Chantix)
• Bupropion (Wellbutrin, Zyban)
Antidepressants
SSRIs:
• Fluoxetine (Prozac)
• Sertraline (Zoloft)
• Paroxetine (Paxil)
• Citalopram (Celexa)
• Escitalopram (Lexapro)
• Fluvoxamine (Luvox)
Other Antidepressants:
• Venlafaxine (Effexor)
• Mirtazapine (Remeron)
• Nefazodone (Serzone)
Anti-epileptics
• Carbamazepine (Tegretol)
• Felbamate (Felbatol)
• Gabapentin (Neurontin)
• Lamotrigine (Lamictal)
• Levetiracetam (Keppra)
• Oxcarbazepine (Trileptal)
• Pregabalin (Lyrica)
• Tiagabine (Gabitril)
• Topiramate (Topamax)
• Valproate (Depakote)
• Zonisamide (Zonegran)
Miscellaneous
• Isotretinoin (Accutane)
• Oseltamivir (Tamiflu)

doctor,[31] or, if they cannot afford insurance, to the EP. Some of the highest-risk patients live alone, are socially outcast or isolated, or otherwise lack social support.[32,33] This may explain why widowed, divorced, and single people are at higher risk to commit suicide,[34] so be particularly wary of the recently widowed or divorced. Identifying and treating patients with recent stressful events is critical because self-harm often is brought on by a reversible short-term crisis.[5]

Remember to ask about past suicide attempts. Be concerned if the patient's current situation mimics one in which a serious attempt was made. Some literature suggests that a history of multiple attempts places patients at higher risk, with added risk if the patient also has a suicide plan.[35,36] Patients with a plan are more of a risk to complete suicide,[13] so talk in detail with patients about the frequency, severity, and depth of their suicidal thoughts, as well as whether they have access to a weapon or other means. Ask where they have the weapon and whether they've taken it out or moved it recently.

And while most of the literature focuses on risk factors, there are protective factors, as well. The APA gives a list of these factors. The CDC offers a summary of these protective factors (*see Table 4*):

- Effective clinical care for mental, physical, and substance abuse disorders;
- Easy access to a variety of clinical interventions and support for help seeking;
- Family and community support (connectedness);
- Support from ongoing medical and mental health care relationships;
- Skills in problem solving, conflict resolution, and nonviolent ways of handling disputes;
- Cultural and religious beliefs that discourage suicide and support instincts for self-preservation.

The psychiatry literature has acknowledged a handful of these as being most important. There is even a "Reasons for Living Inventory," to be filled out by the patient, which has been created to help spot protective factors.[37] Just as poor social support is a risk factor, good social support is protective, no matter who provides it.[38] Many patients draw on religious belief for support, which has been shown to be a protective factor, with Catholics, Jews, and Protestants having the lowest suicide rates[39]; however, strength of belief is more protective than one's specific religion.[40] In addition to gauging the extent of support systems, try to estimate patients' sense of duty to their families. This is particularly important in female patients, as presence and number of children decrease risk of suicide in women.[41] People may mention they were on the brink of suicide but came to the ED after thinking about their children. Above all, ask patients about their reasons for living.

Clinical Features

Just as there are many different potential causes of suicidal behavior, there are many ways that patients can present to the emergency department. Some simply will tell their doctor that they want to die. Others will come to the ED at around 11 p.m. on a Friday night, with knee pain and a normal exam, and maybe a flat affect.

Table 3. Risk Factors for Suicide

- Demographic variables (white, male, widowed, divorced, or single)
- Current suicidal thoughts, intent, and plan
- History of suicide attempts
- Precipitants or stressors (acute vs. chronic)
- Psychiatric diagnosis and symptoms
- Alcohol and drug use
- Family history of suicide
- Unemployment and lack of psychosocial support

Source: CDC

Table 4. Protective Factors

- Children in the home and sense of family responsibility
- Pregnancy
- Religious beliefs
- Positive coping and problem-solving skills
- Good social supports
- Positive therapeutic relationship with treatment provider

Source: CDC

Recognition of suicide potential depends on the type of patient who presents. It often helps to place patients in categories, be it depressed, elderly, male alcoholics, or teenagers with borderline personalities and fresh cut marks down their arms. Naturally, discussion of clinical features overlaps with talk about risk factors. The manner in which the patient presents also impacts clinical judgment. Patients presenting after an attempt or with clear suicidal ideation are considered differently from those with less obvious clinical pictures.

Unfortunately, there can be fundamental flaws in the way physicians approach patients who self-harm. Often, clinicians do one of two things. Either they "are overly cautious and assume that anyone who reports suicidal thoughts is at high risk for suicide," or they "underestimate suicidality through a dismissive attitude or inept assessment." The former "leads to unnecessary deprivation of patients' liberties and rights as well as to the squandering of scarce clinical resources," while the latter jeopardizes "patient safety and increase[s] physician liability should there be a negative outcome."[6,42] Because suicide risk factors often have poor predictive value, and an ED visit is a mere snapshot of the overall clinical picture, the EP should err on the side of caution. If there is any doubt regarding patient safety, strongly consider admission and psychiatric consultation.

Assessing suicide potential can be easy in someone who has just made an attempt or who complains about depression and is clear about his or her intent. Other scenarios can mask suicide risk. Silent suicide occurs in patients who are "noncompliant" with treatment of their medical conditions. Think of the AIDS patient who does not take his or her medication, or more subtly, the patient with type 2 diabetes with poor glycemic control. Occult suicide occurs when injury, like a gunshot wound or fall from a height, occurs "by accident." And even if suicide gesture or intent is not obvious, address the potential for self-harm in all patients with chronic alcoholism, substance abuse, psychiatric disorder, and chronic illness.[5]

In patients who present after an attempt or with clear suicidal intent, start with a medical evaluation and treat accordingly. Ask the patient for specific details regarding the act. Patients may give an inconsistent or inaccurate history and sometimes refuse to speak, so question family members, friends, police, paramedics, and anyone else who may have information. The "Uses and Disclosures to Avert a Serious Threat to Health or Safety" exception to the Health Insurance Portability and Accountability Act (HIPAA) lets physicians disclose protected health information to these individuals "based on reasonable belief that use or disclosure of the protected health information was necessary to prevent or lessen a serious and imminent threat to health or safety of an individual or of the public."[5]

Initially, the history and physical examination should focus on the possibility of drug ingestion, trauma, and sequelae of associated illness. Take note of toxidromes. Examine the patient's ABCs, vital signs, mental status, pupils, and perform an appropriate neurologic exam. If altered mental status exists, attempt to determine whether the cause is functional or organic. Because a medical etiology goes unnoticed in up to 50% of acute psychiatric presentations,[43] a careful history and examination are important.[5]

Further history should focus on risk factors. Unfortunately, many emergency nurses and physicians have poor suicide risk assessment skills, and there is no single, standard screening instrument for this purpose.[44,45] The modified SAD PERSONS scale is widely used by EPs to evaluate key historical elements.[5,46,47] (*See Table 5.*) Its use has enabled non-psychiatric medical staff to identify patients in need of specialist evaluation.[48] Some EDs use this mnemonic to risk stratify patients in triage. With this approach, the training of triage nurses in risk assessment is imperative.[49] Education of nurses improves attitude, confidence, competence, and reasoning skills when interacting with self injurers, and several cost-effective education programs have been implemented.[44,50-52] Whether via SAD PERSONS or some other risk-assessment tool, the process of gauging suicide risk should begin in triage, and involved emergency personnel should be trained appropriately.

When it comes to risk stratifying patients, practitioners place more weight on some risk factors than others. The quality of risk assessment by EPs often is questioned and deemed inadequate.[53-57] More recently, though, data suggest that most EPs do use key risk factors to direct their

assessment. As would be expected, EPs perceive immediate risk factors, like lethality of method and active desire to die, as most critical. This is logical given the focus placed in the ED on immediate management of life threats. Most EPs give less consideration to background risk factors, such as psychiatric history and social situation. While this may be in line with current practice, to ensure the highest level of care, consider background risk factors when assessing patients who present with deliberate self-harm.[58]

Aside from asking about a suicide plan, previous attempts, access to a weapon, current thoughts of suicide, and some of the other issues already discussed, it is important to ask about the patient's attitude about surviving the attempt. Determine if the patient is sad or surprised to have survived. If the patient has taken precautions against being discovered or is found accidentally, it implies a failed serious attempt, so view this as a harbinger of continued self-injurious behavior. In general, attempts with lower likelihood of survival confer higher suicide risk, and vice versa.

People at high risk for self-harm who do not present with obvious suicidality warrant a slightly different approach. The first step is to use a sympathetic, nonjudgmental demeanor to establish a relationship with the patient. Direct questioning is necessary, but not until after a level of comfort is reached between patient and physician. Begin by evaluating the presenting complaint and pertinent history. After building rapport and getting a feel for the patient's medical, psychiatric, and social history, move on to more specific questions about depression and suicidal thoughts. Asking patients about suicide, contrary to rumor, does not appear to plant the thought in their heads. If they are at risk for self-harm, odds are they have had suicidal thoughts for a long time.[5]

Empathy may seem like an obvious priority, but attitudes toward self-harm in the ED vary among staff. Doctors, nurses, and other personnel often harbor negative attitudes about patients who self-harm, potentially compromising their care. In a fast-paced environment like the ED, with a focus on the critically ill, these patients are sometimes viewed as a drain on the system and a waste of resources. For many physicians, it is counterintuitive and frustrating to treat someone who, at least outwardly, does not want to be treated or saved. Yet, a physician trained in emergency medicine should excel at dealing with this sort of paradox. It seems that the stigma attached to suicide is fading and health care workers are realizing that an open, sympathetic approach is needed. Negative attitudes can be avoided by ensuring that all ED staff have proper training in management of patients with self-injurious behavior.[44,59-70] View every patient who presents to the ED with self-harm as one who is there for help.

Diagnostic Studies

In cases of suicidality, there is no specific diagnostic test that can be used to risk stratify patients. Usually, in the case of self-harm, the diagnosis is clear, and diagnostic testing centers around the mechanism of injury. If the patient attempted hanging, then a CT angiogram of the neck may be necessary. Patients who have jumped from a height should receive a trauma evaluation. For toxic ingestion, the work-up should focus on the substance ingested as well as possible co-ingestants. Urine drug screen, serum alcohol, salicylate, and acetaminophen levels are usually a good idea, and most ingestions deserve an ECG (particularly if tricyclic antidepressant overdose is suspected). However, routine toxicologic screening is unnecessary for most patients with suicidal ideation. Toxic ingestions usually manifest with clinical signs. Some presentations do not warrant any testing, but psychiatric facilities accepting patients often require screening laboratory tests prior to transfer. Other than building trust between ED staff and accepting psychiatric consultants, there is little that can be done about this. In general, order the laboratory tests required for transfer.[5,71,72]

Differential Diagnosis

When encountering a patient with evidence of self-harm, differential considerations exist. Of primary focus are suicide attempts, gestures, and suicidal ideation of varying degrees. But also consider major depression, minor depression, cyclothymia, secondary gain, self mutilation without lethal intent, and other psychiatric conditions.[71]

Of note, secondary gain should be an absolute exclusionary diagnosis, and implies that while the patient's stated motive for self injury is death, the behavior actually meets another need or desire. Alternatively, their intent may be to avoid incarceration, legal prosecution, homelessness, and other personal issues.[71,72]

Self-mutilation and other forms of deliberate self-harm are also important to consider, but remember that deliberate self-harm is an independent risk factor for future suicide attempts. When in doubt, solicit assistance from mental health experts.[71,72]

Management

Current practice with these patients can be just as unpredictable as the ED itself. As discussed, management is labile and depends on different clinical presentations with varying severities and treatment priorities. Still, a systematic, structured approach to these patients often leads to the best treatment plan.

Prehospital care should entail treatment of injuries and life threats, including potential harm from overdose. Some patients will be aggressive or may refuse to come to the hospital, in which case law enforcement officials may have to place patients in protective custody.[5]

Begin ED management of suicidal patients by evaluating for life threats and providing immediate stabilization. Provide constant monitoring and ensure the safety of the patient, staff, and others. Consider suicide precautions or chemical/physical restraint if necessary. Social restraints in which the patient is undressed

Table 5. Modified SAD PERSONS Scale

Sex: Male = 1
Age: < 19 or > 45 years = 1
Depression or hopelessness = 2
Previous suicide attempts or psychiatric care = 1
Excessive alcohol or drug use = 1
Rational thinking loss (psychiatric or organic) = 2
Separated, widowed, or divorced = 1
Organized or serious attempt = 2
No social support = 1
Stated future intent (determined to repeat or ambivalent) = 2

Interpretation of Score
< 6 may be safe to discharge (depending on circumstances)
6-8 probably requires psychiatric consultation
> 8 probably requires hospital admission

Used with permission from: Hockberger RS, Rothstein RJ. Assessment of suicide potential by nonpsychiatrists using the SAD PERSONS score. *J Emerg Med* 1988;6:99-107.

and gowned, with his or her clothes and personal items secured, any potential harmful items removed, and a sitter close by can be effective in non-aggressive patients, particularly when the patient needs to leave the bed. After initial stabilization and treatment of injuries, seek out medical causes of the patient's state and manage accordingly. In most jurisdictions, profoundly uncooperative patients can be held or committed for a limited amount of time (approximately 72 hours). Do this only for patients who need evaluation and treatment and are either a threat to themselves or others, or are unable to care for themselves. Make every possible effort to promote voluntary admission. If all else fails, commit acutely suicidal patients and document thoroughly, following whatever process is required by the state.

EPs have voiced the need for a clinical decision rule (CDR) for admission of patients with suicide risk, ranking it among the top 10 issues needing a CDR, in a survey sent to members of the national emergency medicine associations in Australasia, Canada, the United Kingdom, and the United States.[73] The American College of Emergency Physicians (ACEP) has general guidelines for approaching adult psychiatric patients, but nothing specific for those who self-harm.[72] The Manchester Self Harm Rule, consisting of four questions, was compared to global assessment and showed higher sensitivity but lower specificity for predicting repeat self-harm or suicide, so it is useful only as an adjunct to global clinical assessment.[74-76]

The modified SAD PERSONS scale has been validated for use by non-psychiatric medical personnel and seems to be the current standard for risk assessment in the ED. (*See Table 5.*) Risk should be assessed initially in triage, followed by a more detailed mental health assessment addressing psychosocial needs by trained staff, ideally an experienced mental health professional.[77] The EP's role is to determine the patient's likelihood of committing suicide if discharged and to decide between psychiatric hospitalization, emergency psychiatric consultation, and discharge. That said, even psychiatrists equipped with an armament of risk-assessment scales have difficulty predicting suicide.[78-80] The advantage of the SAD PERSONS scale is its simplicity and adaptability to ED use. A score of 6 or more is 94% sensitive and 71% specific, when compared to formal psychiatric evaluation, in determining which patients presenting immediately after suicide attempt need hospitalization. A score of less than 6 has a negative predictive value of 95%, and no patients with low scores had died when evaluated at 6 and 12 months.[5]

Conduct risk assessment after metabolism of drugs and alcohol. Consider input from friends and family. When facing these dilemmas, elicit help from social workers and other professionals, but formulate an autonomous conclusion regarding suicide risk. When in doubt, do not hesitate to request emergent psychiatric consultation and advocate for hospitalization.

Once a disposition is set, medicinal options are limited in the ED and should be left to the psychiatrist. Given the low serotonin levels seen in patients who self-harm, it may seem logical to begin patients on a selective serotonin reuptake inhibitor (SSRI). However, the initial phase of treatment with SSRIs has been shown to increase risk of suicide, and the FDA has issued warnings that antidepressant use poses a small but increased risk of suicidal ideation/attempt in children and adolescents. (*See Table 2.*) The data are conflicting,[81-85] but recent meta-analyses have shown that benefits of antidepressants appear to be much greater than risks from suicidal ideation/suicide attempt, although comparison of benefit to risk depends on indication for treatment, age, chronicity, and study conditions.[83] There does seem to be an age-dependent element, and risk of suicide with antidepressant therapy decreases as age increases.[84] Benefit or no benefit, starting antidepressant therapy is a decision best left to the specialist.

Special consideration should be given to children and adolescents, who present unique challenges in management. In general, adolescents who have attempted suicide and cannot be monitored and kept safe as outpatients should be hospitalized. Suicide among adolescents is on the rise, and deciding to discharge a minor who has expressed thoughts of suicide can be a difficult decision to make.

Consider discharge only in certain adolescent patients. Before doing so, make sure that the patient is

not imminently suicidal and that no medical issues or drug use are clouding the picture. Ensure that intoxication or other cause for an altered mental state is not limiting assessment of the patient. Address acute precipitants of crisis (loss of relationship, trouble with the law or school, or other disciplinary crises) and take measures to resolve them. Consider that gay, lesbian, and bisexual youths are at higher risk for harming themselves. Arrange for treatment of any underlying psychiatric condition and, when possible, arrange for a mental health evaluation prior to discharge. Be certain that the child or adolescent is not returning to an environment containing a potentially lethal means of self-harm. The patient and parents should agree to return to the ED for recurrent suicidal intent, and the physician must believe that the patient and family will follow through with the treatment plan. The child or adolescent should have strong social supports and reliable caregivers who agree and are compliant with the discharge plan.[5,86,87]

Disposition

Most of the above discussion comes down to one question: "Can I send this person home?" In the 5-10 minute window between getting the crashing respiratory distress patient admitted and seeing the incoming MVC victims, which information is most helpful in figuring out what to do with this suicide attempt?

First and foremost, the patient must be medically stable. After that, determine level of risk. To be safe for discharge, SAD PERSONS score must be less than 6. If there is a crisis that precipitated the attempt, it must be addressed. There should be no weapons at the patient's destination, as guns in the home increase suicide risk five-fold.[117] The patient must have strong social support. Ensure that a reliable family member or friend will be with him or her or immediately available until the follow-up appointment. Aim for expedient follow up, and speak with the ongoing provider. In general, if someone is cleared for discharge via psychiatric consult, send the patient home after confirming a treatment plan, return precautions, and appropriate follow up. Discharge is the perfect time to counsel and reassure patients, while documenting the presence of important factors associated with safe discharge.[5,71]

Opinions vary regarding the usefulness of a no-harm contract, and the most recent APA guidelines do not recommend its use.[1] In a no-harm contract, the patient agrees not to hurt himself or herself in a given period of time. While it does not legally protect the physician if the patient commits suicide after discharge, a no-harm contract offers some advantages. It can help gauge the severity of the patient's suicidal ideation and intent, thus guiding risk assessment. The no-harm contract can help the physician unearth the root of a patient's suicidal ideation and may even be therapeutic for the patient. Overall, do not depend on no-harm contracts, but consider including them in the discharge plan for appropriate patients.[87,89]

It is hard to say whether EPs are making the right decisions regarding hospitalization and whether this has any impact on suicide rates. Unfortunately, most studies indicate that, no matter the intervention, suicide rates in patients seen for self-harm are not changing.[90-92] Higher rates of suicide in self-injurers discharged from the ED have led some to suggest that psychiatric intervention be mandatory for all patients who self-harm, regardless of perceived risk.[92] However, there are limited mental health services for suicidal patients, specifically consultants for evaluation, disposition, and follow up of suicidal patients in the ED.[93] Inevitably, some patients are lost to follow up. A large study found that only two-thirds of patients referred for psychiatric treatment at outpatient facilities received the treatment planned by the consulting psychiatrist.[94] Mobile crisis teams have been created and have resulted in improvement in follow up, but did not enhance symptomatic or functional outcomes or likelihood of outpatient psychiatric care.[95] This lack of improvement in critical outcomes is largely dependent on what happens outside of the ED. But inside the ED, there lies a unique opportunity to affect suicide rates. When potentially suicidal patients come to the ED, take the opportunity to listen. If they are low risk, send them home, but point them in the right direction.

Additional Aspects

As with many aspects of emergency medicine, the area of self-harm is fraught with medicolegal peril. Since 1998, suicide and attempted suicide make up 15% of malpractice claims by cause of loss, in the United States.[96,97] Suicide is notoriously difficult to predict, even for psychiatrists, so document thoroughly, especially in regard to risk assessment. Note the reasons for chosen management and disposition, as well as discussions with psychiatric consultants and provision of resources.

Above all, be a patient advocate. A sympathetic approach with the patient and family will be well remembered, no matter what the outcome.

Summary

What can emergency providers due to prevent suicide and close the practice gap? A certain comfort level is needed to tackle such a sensitive topic. Here are some suggestions. Be able to define self-harm and all its permutations. Recognize there is a difference between suicidal behavior and deliberate self-harm, but that the latter can lead to the former. Be aware of the risk factors for suicide, and realize that self-harm is a huge problem. Understand the importance of risk factors such as underlying psychiatric illness, drug and alcohol use, recent life stress, social circumstances, past attempts, and active plan, but know that nothing has been shown to reliably predict future suicide. Do not forget to ask patients about protective factors. Be flexible in the clinical approach to potentially suicidal patients, as not all will be obvious with their intent,

and some may be deceptive. Know the most threatening presentations. Try to limit diagnostic testing to that which is warranted by the clinical presentation, but realize that accepting psychiatric facilities may require more. Maintain a broad differential diagnosis and a high suspicion for suicidal ideation, reserving secondary gain as a rule-out diagnosis. Assure the safety of the patient and everyone around when physical restraint is needed. Commit patients against their will as a last resort. Until there is a better clinical decision rule, rely on risk assessment (using SAD PERSONS) and appropriate consultation to guide management and disposition. Be particularly careful when setting the disposition of children and adolescents. While numerous interventions have not seemed to decrease frequency of suicide in patients presenting to emergency settings with self-injurious behaviors, be resolute and structured in figuring out the best course for these patients. Appropriate recognition of suicide potential, risk assessment, and disposition are important from a medicolegal standpoint and, above all, helpful to patients.

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Physician CME Questions

71. Deliberate self-harm is defined as:
    A. self-injurious behavior with a nonfatal outcome, accompanied by evidence that the person intended to die
    B. subjective expectation and desire for a self-destructive act to end in death
    C. thoughts of serving as the agent of one's own death
    D. willful self-inflicting of painful, destructive, or injurious acts without intent to die

72. Which of the following is correct?
    A. Males are more likely to attempt suicide than females.
    B. Males are more likely to attempt suicide by poisoning than females.
    C. Elderly patients are more likely to use lethal means, such as a firearm, to attempt suicide.
    D. Case fatality rates for suicide attempts are equal among males and females.

73. Of the following populations, which is at highest risk to commit suicide?
    A. African-Americans
    B. Hispanic-Americans
    C. Native Americans
    D. Asian-Americans

74. A 24-year-old woman presents to the emergency department for chest pain and palpitations. The patient is currently taking penicillin and oxycodone for a tooth infection, varenicline to help quit smoking, NuvaRing for contraception, and was recently started on paroxetine for depressed mood. Which of the following drugs have received recent FDA warnings regarding potential link to suicidality?
    A. penicillin and varenicline
    B. oxycodone and NuvaRing
    C. NuvaRing and paroxetine
    D. paroxetine and varenicline

75. Your last patient of the evening is a 49-year-old man, who is brought in by his ex-wife. She says that he has been depressed and less talkative for the past month when she comes by on weekends to drop off the kids. She provides most of the history because he is withdrawn, quiet, and is reluctant to answer most questions. She states that he normally drinks alcohol socially but recently has been drinking a six-pack of beer every night. He is a police officer, and coworkers think that his behavior may have been triggered by recent rumors that his job may be in jeopardy. On exam, he is withdrawn, with a flat affect, and looks down at your shoes during the interview. Medical work up is negative. The patient denies suicidal ideation and would like to go home. What is the best course of action?
    A. Prescribe an SSRI and schedule urgent follow up.
    B. Consult the social worker and base your management on his or her recommendations.
    C. Refer the patient to counseling for alcohol abuse and schedule follow up with psychiatry within 3-4 days.
    D. Consult psychiatry and admit the patient for further evaluation.

76. Which of the following is associated with the greatest risk of suicide?
    A. alcohol abuse
    B. major mood disorder
    C. schizophrenia
    D. guns in the home

77. Which of the following is true regarding the modified SAD PERSONS scale?
    A. A score of < 6 is probably safe for discharge.
    B. A score of < 4 is probably safe for discharge.
    C. Previous suicide attempts or current psychiatric care is the component with the largest value.
    D. The scale is more specific than sensitive.

78. Which of the following is true regarding "no self-harm" contracts?
    A. The American Psychiatric Association recommends their use.
    B. They provide legal protection to the patient is the patient later commits suicide.
    C. They can be used to help gauge the severity of the patient's suicidal ideation and intent.
    D. They require the signature of a witness to be valid.

79. Which of the following has been shown to protect against suicide?
    A. strong religious beliefs
    B. working in law enforcement
    C. working in the health profession
    D. participation in sports

80. Which is an example of occult suicide?
    A. 75-year-old woman with renal failure who repeatedly refuses to show up for dialysis
    B. 30-year-old man who arrives intoxicated after single vehicle high speed MVA, whose mother says that he has expressed feelings of hopelessness
    C. 22-year-old man who arrives after attempting to hang himself and lives through the event
    D. 18-year-old woman commits suicide by slitting her wrists in a desolate forest

CME Answer Key

71. A; 72. C; 73. C; 74. D; 75. D; 76. B; 77. A; 78. C; 79. A; 80. B

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Self-harm in the Emergency Department

Suicidal Thoughts and Behaviors in the Past Year Among Adults: 2008

Suicidal Thoughts and Behavior	Number (in millions)
Serious thoughts of suicide	8.3
Made a suicide plan	2.3
Made a suicide plan and made suicide attempt	0.9
Made suicide plan but did not make suicide attempt	1.4
Did not make a suicide plan	6.0
Did not make a suicide plan but made suicide attempt	0.2
Did not make suicide plan and did not make suicide attempt	5.8
Source: 2008 SAMHSA National Survey on Drug Use and Health (NSDUH)	

Medications that Carry FDA Warning About Their Potential to Increase the Risk of Suicide

Antismoking Agents

- Varenicline (Chantix)
- Bupropion (Wellbutrin, Zyban)

Antidepressants

SSRIs:

- Fluoxetine (Prozac)
- Sertraline (Zoloft)
- Paroxetine (Paxil)
- Citalopram (Celexa)
- Escitalopram (Lexapro)
- Fluvoxamine (Luvox)

Other Antidepressants:

- Venlafaxine (Effexor)
- Mirtazapine (Remeron)
- Nefazodone (Serzone)

Anti-epileptics

- Carbamazepine (Tegretol)
- Felbamate (Felbatol)
- Gabapentin (Neurontin)
- Lamotrigine (Lamictal)
- Levetiracetam (Keppra)
- Oxcarbazepine (Trileptal)
- Pregabalin (Lyrica)
- Tiagabine (Gabitril)
- Topiramate (Topamax)
- Valproate (Depakote)
- Zonisamide (Zonegran)

Miscellaneous

- Isotretinoin (Accutane)
- Oseltamivir (Tamiflu)

Risk Factors for Suicide

- Demographic variables (white, male, widowed, divorced, or single)
- Current suicidal thoughts, intent, and plan
- History of suicide attempts
- Precipitants or stressors (acute vs. chronic)
- Psychiatric diagnosis and symptoms
- Alcohol and drug use
- Family history of suicide
- Unemployment and lack of psychosocial support

Source: CDC

Modified SAD PERSONS Scale

Sex: Male = 1
Age: < 19 or > 45 years = 1
Depression or hopelessness = 2
Previous suicide attempts or psychiatric care = 1
Excessive alcohol or drug use = 1
Rational thinking loss (psychiatric or organic) = 2
Separated, widowed, or divorced = 1
Organized or serious attempt = 2
No social support = 1
Stated future intent (determined to repeat or ambivalent) = 2

Interpretation of Score
< 6 may be safe to discharge (depending on circumstances)
6-8 probably requires psychiatric consultation
> 8 probably requires hospital admission

Used with permission from: Hockberger RS, Rothstein RJ. Assessment of suicide potential by nonpsychiatrists using the SAD PERSONS score. *J Emerg Med* 1988;6:99-107.

Protective Factors

- Children in the home and sense of family responsibility
- Pregnancy
- Religious beliefs
- Positive coping and problem-solving skills
- Good social supports
- Positive therapeutic relationship with treatment provider

Source: CDC

Supplement to *Emergency Medicine Reports*, March 29, 2010: "Self-harm in the Emergency Department: A Cry for Help, A Call to Arms." *Authors:* **Peter Stefanski, MD**, Department of Emergency Medicine, Maricopa Medical Center, Phoenix, AZ; and **Eric Katz, MD, FACEP, FAAEM**, Program Director and Vice-Chair for Education, Maricopa Medical Center, Phoenix, AZ.