EMERGENCY NURSES ASSOCIATION
SAFE PRACTICE, SAFE CARE

CLINICAL PRACTICE GUIDELINE:

Suicide Risk Assessment

What risk assessment tools and predictors are effective in screening for self-harm or suicidal ideation during initial assessment of patients across the life span in the emergency department?

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Suicide Risk Assessment

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Background and Significance

According to the Centers for Disease Control and Prevention (CDC), suicide is currently the 10th leading cause of death in the United States (CDC, 2016). There were 44,193 deaths due to intentional self-harm (suicide) in 2015, and suicide deaths continue to rise. For 2015, the CDC reported suicides based on age as follows (CDC, 2015a):

Table 1: CDC Reported Suicides by Age for 2015

Age Group (in years)	Number of Suicides
5-14	413
15-24	5,491
25-34	6,947
35-44	6,936
45-54	8,751
55-64	7,739
65 and older	7,916

The Joint Commission (2016) discussed the rise in suicide rates, lack of screening for suicidal ideation by providers, and the fact that those who committed suicide received health care treatment — often for non-mental-health reasons — in the year before death. As a result, new requirements for screening were established. Emergency departments, primary care physicians, and behavioral health clinicians are now required to:

1.) Review each patient's personal and family medical history for suicide risks factors.

2.) Screen all patients for suicide ideation using a brief, standardized, evidenced-based screening tool.

3.) Review screening questionnaires before the patient leaves the appointment or is discharged.

4.) Take action based on the assessment results to inform the level of interventions needed.

(The Joint Commission, 2016, p. 3)

Individuals who attempt suicide or have suicidal ideations may present multiple challenges for emergency care providers. Patients often do not volunteer that their injuries are due to self-harm. In 2013, for example, 494,169 people were treated in emergency departments for non-fatal self-inflicted injuries at a cost of over 10 billion dollars in work loss and medical expenses (CDC, 2015b). Care providers need to maintain an elevated level of vigilance and attempt to identify the potential risk factors and personal characteristics associated with suicidal behaviors.

Research supports universal screening for suicide risk by emergency departments (Ballard, Horowitz, et al., 2013; Boudreaux, Jaques, Brady, Matson, & Allen, 2015; Caterino et al., 2013). When screening for the risk of suicide is limited to patients reporting a mental health chief complaint, a significant number of positive screenings are missed (Boudreaux et al., 2015). According to Boudreaux et al. (2015), suicidal ideation is estimated to be present in as many as 11% of all ED patients, while only 3% are identified by screening. In a multicenter study intended to evaluate compliance with suicide screening, Caterino et al. (2013) examined a convenience sample of 94,354 adult patients presenting to the ED. Of these, only 26% were screened, with the risk of self-harm identified in only 2.7%. There was also significant variability in assessments by the eight institutions in the study (Caterino et al., 2013). Screening should not be limited to the adult population. Ballard, Stanley, et al. (2013) asked pediatric emergency patients aged 10 to 21 years a series of suicide risk questions and if they had been previously screened for suicide risk in the pediatric emergency department. Ninety percent of the 165 patients and their parents supported suicide risk screening in the ED.

Due to constraints of time and personnel, screening within the ED must be brief and easily administered by the staff. The initial suicide screening tool should efficiently identify those at risk for self-harm and be easily integrated with the current clinical assessments performed in the ED. For that reason, this CPG has restricted recommendations to tools with five or less screening

questions to improve compliance with the universal screening requirement of the Joint Commission (2016) (Boudreaux et al., 2015; Caterino et al., 2013; Folse, Eich, Hall, & Ruppman, 2006). Initial screening may also be accomplished with a self-report survey completed in the waiting room (Joint Commission, 2016).

It is imperative to stress that suicide screening will not identify all patients at risk for self-harm. Screening is dependent on the accuracy and completeness of responses received to the screening questions. Screening cannot predict psychiatric admission and near-term adverse events in the ED (Chang & Tan, 2015). The goal of universal screening is to identify the population at risk for self-harm that currently goes undetected, and allow for providers to complete a more in-depth lethality or depression screening to assist with placement or discharge planning. Once a person is identified as a potential suicide risk, care providers need to provide safety and preventive care until the patient can be transferred to an area or facility that can provide further psychiatric evaluation and services (Jacobs et al., 2007; Knesper, 2011).

TERMINOLOGY

The CDC has established the following definitions in an effort to facilitate the collection of data elements to promote and improve consistency in self-directed violence surveillance and research (Crosby, Ortega & Melanson, 2011). The list is not all-inclusive, and further definitions pertinent to the research of each section are presented.

Self-directed violence (SDV) (analogous to self-injurious behavior)
Behavior that is self-directed and deliberately results in injury or the potential for injury to oneself. This does not include behaviors such as parachuting, gambling, substance abuse, tobacco use or other risk taking activities, such as excessive speeding in motor vehicles. These are complex behaviors, some of which are risk factors for SDV, but are defined as behavior that while likely to be life-threatening is not recognized by the individual as behavior intended to destroy or injure self.

Self-directed violence is categorized into the following:

Suicidal
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.

Non-suicidal
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.

Undetermined self-directed violence
Behavior that is self-directed and deliberately results in injury or the potential for injury to oneself. Suicidal intent is unclear based on the available evidence.

Suicide attempt
A non-fatal self-directed potentially injurious behavior with any intent to die as a result of the behavior. A suicide attempt may or may not result in injury.

Interrupted self-directed violence – by self or by other

By other
A person takes steps to injure self but is stopped by another person prior to fatal injury. The interruption can occur at any point during the act such as after the initial thought or after onset of behavior.

By self (in other documents may be termed "aborted" suicidal behavior)
A person takes steps to injure self but is stopped by self prior to fatal injury.

Other suicidal behavior including preparatory acts
Acts or preparation towards making a suicide attempt, but before potential for harm 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) (Posner et al., 2007).

Suicide
Death caused by self-directed injurious behavior with any intent to die as a result of the behavior (Crosby, Ortega & Melanson, 2011, p. 21).

DEMOGRAPHICS

There is significant evidence that individuals with a certain combination of gender, socioeconomic status, and age factors may be at an increased risk for attempted suicide. Lower socioeconomic status has been found to be a predictor of suicide (Bilén, Ponzer, Ottosson, Castrén, & Pettersson, 2013; Kuo, Gallo & Tien, 2001; Murphy, Kapur, Webb, & Cooper, 2011; Rockett et al., 2012). Several studies identified that females are at greater risk of deliberate self-harm than males (Bilén et al., 2011; Bilén et al., 2013; Cooper et al., 2010; Gardner et al., 2010). A study in the primary care setting found that "patients who reported suicidal thoughts were more likely to be younger and female, to have used substances or carried weapons in the previous month, and to have been in a fight in the previous year" (Gardner et al., 2010, p. 948). In older populations, white participants have a higher rate of self-harm than non-whites (Cooper et al., 2010, p. 216).

PRIOR PSYCHIATRIC AND MEDICAL HISTORY

Previous suicide attempts and the methods used are considered to be strongly predictive of future risk for suicide (Bilén et al., 2011; Bilén et al., 2013; Dube, Kurt, Bair, Theobald, &Williams, 2010; Haney et al., 2012; King, Berona, Czyz, Horowitz, & Gipson, 2015; National Collaborating Centre for Mental Health, 2004; Plutchik, van Praag, Conte, & Picard, 1989; Stanley et al. 2015; Steeg et al., 2012, Ting et al., 2012). Deliberate self-harm (DSH) has been shown to be strongly associated with an increased risk of suicide: "the cumulative incidence for patients repeating DSH within 12 months of the index episode was 26.8% (95% CI: 24.6–29.0)" (Bilén et al. 2011, p. 1019).

Assessing the methods used for DSH is also important for identifying high-risk patients. Self-poisoning by prescription and over-the-counter medications is predictive of future suicide attempts (Bilén et al., 2011; Murphy et al., 2011). Although self-cutting is also a predictor of suicide, Steeg et al. (2012) found that participants "were significantly less likely ($p < 0.001$) to receive an assessment" (p. 5) compared with those who had used other methods.

Having a previous mental health diagnosis is a strong predictor of suicide risk (Bilén et al., 2011; Gardner et al., 2010; Haney et al., 2012; Murphy et al., 2011; National Collaborating Centre for Mental Health, 2004; Steeg et al., 2012; Ting et al., 2012; Warner et al., 2011). Depression and hopelessness are commonly included in many risk assessment tools. "Among diagnoses, having a mood disorder was associated with a 4-fold increased prevalence of suicidality" (Diefenbach, Wooley, & Goethe, 2009, p. 94).

Of particular concern is the military population, where post-traumatic stress disorder (PTSD) is a factor related to suicide attempts. Young men who serve in the military and have a history of PTSD after deployment are at increased risk of suicide. Post-deployment PTSD screening tools have been developed, but they depend on the honest reporting of any symptoms (Haney et al., 2012; Warner et al., 2011).

Substance abuse, of both alcohol and other drugs, is a predictor of increased risk for suicide (Haney et al., 2012; Murphy et al., 2011; National Collaborating Centre for Mental Health, 2004; Ting et al., 2012). These researchers identified heavy episodic drinking (HED) correlated with a significant increase in the risk for suicide attempts when self reported in the adolescent population. Subjects aged 18 and older with HED were noted to have 1.2 times more suicide attempts than non-drinkers. Younger adolescents aged up to 13 were 2.6 times more at risk for suicide attempts. The researchers found "positive and statistically significant ($p < 0.001$) associations among depressive symptoms, HED, and suicide attempts" (Aseltine, Schilling, James, Glanovsky, & Jacobs, 2009).

Chronic physical illness was found to be an important predictor of increased risk for suicide (Murphy et al., 2011). Oude Voshaar et al. (2011, p. 740) noted that patients "older than 55 years of age considered physical health problems significantly ($p = 0.005$) more often as main precipitant for their act." Ilgen et al., (2009, p. 511) found that "suicidal thoughts were associated with physical and mental health functioning ($p < 0.0001$)."

SIGNIFICANT LIFE EVENTS

Living alone or not having a significant other are risk factors that contribute to an increased risk for suicide in individuals across all age groups (Haney et al., 2012; Horesh, Sever, & Apter, 2003; Murphy et al., 2011; Steeg et al., 2012). Significant negative life events (SLE) such as loss of a family member, a job, or a relationship can be a predictor of suicide (Bilén et al., 2011; Haney et al., 2012; Horesh et al., 2003; Murphy et al., 2011).

Stanley et al. (2015) utilized the ASQ to explore the premise that experiencing recent bullying behavior increased the odds of screening positive for suicide risk in the pediatric population. The researchers identified "a statistically significant association between bullying behavior and suicide risk in the medical population but not the psychiatric population (adjusted odds ratio, 3.19; 95% CI, 1.66–6.11)" (Stanley et al., 2015, p. 1).

PERSONNEL TRAINING

Multiple studies recommend training to improve the confidence of ED personnel in screening patients for suicide risk (Coristine, Hartford, Vingilis, & White, 2007; Currier, et al., 2012; DeMaso, Martini, and Cahen, 2009; Horowitz et al. 2012; National Collaborating Centre for Mental Health, 2004; Royal College of Psychiatrists, 2010). Horowitz et al. (2013) completed formalized training for 53 inpatient nurses in 20-minute sessions after which they reported increased comfort with the screening process within a week of implementation.

In a convenience sample (N = 844) in three community hospitals, registered nurses throughout the hospital were asked to describe their perceptions of their behavioral health competencies (Rutledge et al., 2013). The participants reported moderately strong perceptions that they could adequately assess patients with behavioral health needs. Of the nurses surveyed, ED nurses scored significantly higher than nurses in all other settings (Rutledge et al., 2013).

The presence or availability of nursing staff in the ED with specialized psychiatric training may be beneficial in areas with limited access to psychiatric services. Sinclair, Hunter, Hagen, Nelson, and Hunt (2006) concluded that "experienced psychiatric nurses working in the emergency setting can provide appropriate clinical assessments and management of patients with mental illness" (p. 691). In a prospective cohort study of 3491 individuals, Murphy et al. (2011) compared risk assessments completed by psychiatric nurses in the ED with those done by psychiatrists and found both to have positive predictive value for repetition of self-harm (25% and 23%, respectively). The strong correlation between the results for nurses and physicians supports nurse-led high-risk assessments. A qualitative study by Coristine et al. (2007) explored the advantages of having a registered nurse with two years of crisis intervention training care for ED patients with mental health complaints. Nurses felt the benefits attributed were decreased wait times and improved discharge and follow-up care. A study comparing ED triage nurses with psychiatric nurse consultants (PNC) found poor agreement (kappa coefficient = 0.029) in assigning level of urgency at triage (Happell, Summers, & Pinikahana, 2002). The ED nurses assigned more patients to the emergent level than the PNC (16.7% vs. 5.1%), and fewer patients to the non-urgent level (6.5% vs. 27%), suggesting the ED nurses had a lower comfort level with assessing and caring for psychiatric patients.

Guidelines and screenings that are not directly associated with disposition, discharge, or admission may be perceived by the ED staff as "flow stops." Kirk and Nilsen (2016) identified a "flow stop" in the ED as "an action that, despite execution, has no influence on how quickly the patients move through the department" (p. 560). Emergency department staff, faced with pressure to implement many evidenced-based guidelines, require time and commitment from the practitioner to stay current and competent to implement the recommended screenings. Recognition of the length of and time to complete many of the risk-for-suicide tools influenced the choice to limit tools to those with five questions or less (Kirk & Nilsen, 2016).

Triage tools such as the Mental Health Triage Scale (MHTS) developed by Smart, Pollard, and Walpole (1999) for use with the Australian Triage System (ATS) are of benefit in supplementing education on the risk tools for assigning acuity. The ATS did not have an adequate method to identify the severity of mental health patients, whereas the MHTS assigns a triage category (Emergency, Urgent, Semi-Urgent, and Non-Urgent) based on the patient's behavior that determines how quickly a patient is seen by a physician. Happell et al. (2002) compared the ratings given by triage nurses and those by psychiatric nurse consultants, with both using the

MHTS. Triage nurses and psychiatric nurse consultants assigned the same category only 34% of the time. Differences by one category occurred in 43% of cases, and by two categories in 18% of cases. They found the differences to be statistically significant ($p = 0.029$), with triage nurses being more likely to over-triage mental health patients (Happell et al., 2002).

This CPG evaluates the scientific literature on screening tools and scales that can effectively screen all patients for suicidal ideations regardless of their chief complaint. This will provide the resources needed for EDs to comply with the Joint Commission's new suicide screening requirements (Joint Commission, 2016, https://www.jointcommission.org/sea_issue_56/).

Methodology

This CPG was created based on a thorough review and critical analysis of the literature following ENA's "Requirements for the Development of Clinical Practice Guidelines." A comprehensive literature search was conducted and all articles relevant to the topic identified. The following databases were searched: MEDLINE, PubMed, OVID, CINAHL, Proquest, EBSCOhost, and BIOMED Central. Searches were conducted using a variety of search term combinations. These included "initial psychiatric emergencies," "behavioral health emergency," "depression screening," and "mental health emergency." Additional search terms were "assessment" and "management," with the filters "and" and "or" added. Finally, the topics searched included "suicide," "suicidal ideation," "suicide assessment," "suicide scales and/or tools," and "suicide predictors." Initial searches were limited to English language articles from 2000–2012. A 2016 update to this CPG searched for articles published from January 2012–August 2016. In addition, the references of the selected articles were scanned for further pertinent research findings. Meta-analyses, systematic reviews, and research articles from emergency departments, non-ED settings, position statements, and guidelines from other sources were reviewed. Clinical findings and levels of recommendation regarding patient management were made by the Clinical Practice Guideline Committee following ENA's classification of levels of recommendation for practice (Table 2). The articles reviewed to formulate the recommendations in this CPG are described in Appendix 1.

Table 2. Levels of Recommendation for Practice

Level A Recommendations: High
• Reflects a high degree of clinical certainty • Based on availability of high quality level I, II, and/or III evidence rated using the Melnyk and Fineout-Overholt grading system (Melnyk & Fineout-Overholt, 2014) • Based on consistent and good quality evidence; has relevance and applicability to emergency nursing practice • Is beneficial
Level B Recommendations: Moderate
• Reflects moderate clinical certainty • Based on availability of Level III and/or Level IV and V evidence rated using the Melnyk and Fineout-Overholt grading system (Melnyk & Fineout-Overholt, 2014) • There are some minor inconsistencies in quality evidence; has relevance and applicability to emergency nursing practice • Is likely to be beneficial
Level C Recommendations: Weak
• Has limited or unknown effectiveness • Level V, VI, and/or VII evidence rated using the Melnyk and Fineout-Overholt grading system (Melnyk & Fineout-Overholt, 2014) • Based on consensus, usual practice, evidence, case series for studies of treatment or screening, anecdotal evidence, and/or opinion • There is limited or low quality patient-oriented evidence; has relevance and applicability to emergency nursing practice
Not Recommended for Practice
• No objective evidence or only anecdotal evidence available, or the supportive evidence is from poorly controlled or uncontrolled studies • Other indications for not recommending evidence for practice may include: ◦ Conflicting evidence ◦ Harmfulness has been demonstrated ◦ Cost or burden necessary for intervention exceeds anticipated benefit ◦ Does not have relevance or applicability to emergency nursing practice • There are certain circumstances in which the recommendations stemming from a body of evidence should not be rated as highly as the individual studies on which they are based. For example: ◦ Heterogeneity of results ◦ Uncertainty about effect magnitude and consequences ◦ Strength of prior beliefs ◦ Publication bias

Summary of Literature Review

INSTRUMENTS VALIDATED TO ASSESS POTENTIAL SUICIDE/SELF-HARM RISK IN THE EMERGENCY DEPARTMENT

A variety of assessment instruments are used to identify individuals who are at an increased risk of suicide. Some instruments are intended for use within specific settings. For the most part, these instruments consist of large questionnaires (more than 5 questions), making them time-prohibitive in most if not all emergency settings.

After a careful review of the literature, five instruments were identified that may be useful to nurses for the initial assessment of patients. The instruments are Ask Suicide-Screening Questions (Horowitz et al., 2012; Stanley et al., 2015), The Manchester Self-Harm Rule (Bilén et al., 2013; Cooper et al., 2006; Randall, Colman, & Rowe, 2011), The Risk of Suicide Questionnaire (Ballard, Stanley et al., 2013; Folse et al., 2006), The Suicide Affect-Behavior-Cognition Scale (Harris et al., 2015), and The Patient Safety Screener (Boudreaux et al., 2015).

1. Ask Suicide-Screening Questions (ASQ)

The ASQ is a four-question screening tool designed to be administered to pediatric and young adult patients in the emergency department who present for medical complaints. Horowitz et al. (2012) developed the tool through administering 17 questions from the Suicide Ideation Questionnaire (SIQ). Six models were developed using 6, 5, 4, 3, 2, or 1 question. From statistical analysis of the results obtained, the 4-question model was chosen as the most likely to identify a patient at risk for suicide. Getting one or more positive responses from a patient to questions on the ASQ has a sensitivity in identifying an elevated suicide risk "of 96.9% (95% CI, 91.3–99.4), specificity of 87.6% (95% CI, 84.0–90.5), and negative predictive values of 99.7% (95% CI, 98.2–99.9) for medical/surgical patients, and 96.9% (95% CI, 89.3–99.6) for psychiatric patients" (Stanley et al., 2015, p. 4) The ASQ screening tool was 15.2 times more likely to be positive in a patient at risk for suicide when compared with a patient not at risk for suicide (95%, CI 7.2–27.0). A negative ASQ was 0.08 times as likely to be seen in a patient who is at risk for suicide than in someone not at risk (95%, CI 0.008–0.37). The screening tool is highly sensitive and can identify children and young adults with a risk of suicide who present with medical complaints (Horowitz, et al, 2012).

2. Manchester Self-Harm Rule (MSHR)

The Manchester Self-Harm Rule (MSHR) uses four questions to identify patients with potential risk of suicide or repeating self-harm. The questions include whether there is/was: (1) history of self-harm; (2) previous psychiatric treatment; (3) current psychiatric treatment; and (4) benzodiazepine taken as an overdose. If patients answer "yes" to any one of the questions, they are considered at risk. It is a simple, easy-to-use instrument that could be used when screening patients for risk in triage or at other times during the ED visit (Cooper et al., 2006; Randall et al., 2011). This 4-question rule identified patients at higher risk with a sensitivity of 94% (95% CI) and specificity of 25% (95% CI) (Bilén et al., 2013). Bilén et al. (2013) used the MSHR to evaluate the risk of repeated self-harm within six months with a sensitivity of 89% and a specificity of 20%. The low specificity reveals the difficulty in an absolute identification of the patient at risk for suicide.

3. Risk of Suicide Questionnaire (RSQ)

The four-item RSQ screening tool, a validated tool for brief suicide screening (Horowitz, Wang, Koocher, et al, 2001), is estimated to take 90 seconds to administer and its use is recommended as part of the initial assessment of adolescent and adult ED patients. Ballard et al. (2013) established age eight years as the lower end of adolescence, while Folse et al. (2006) established the lower age as 12 years. Ballard et al. (2013) administered the test to 442 patients and the proportion with positive responses to one or more of the questions did not differ between the age ranges of eight to twelve (77/154) and 13 to 18 years old (137/288). A positive answer to one of the four suicide screening questions was significantly associated with increased odds of psychiatric hospitalization in the older age group and with repeat visits in the ED for the younger age group for a psychiatric complaint including suicidal ideation (Ballard et al., 2013, p. 1070).

4. The Patient Safety Screener (PSS)

The PSS has a two-question (PSS-2) and a three-question (PSS-3) version. On its own, the PSS lacked validation for sensitivity, specificity, and false negative rates because of the lack of comparison to a standardized instrument. Boudreaux et al. (2015) used descriptive statistics to validate PSS-3 and PSS-2 by comparing them with the Beck Scale for Suicide Ideation (BSSI), a well-validated and widely-used tool to measure suicide risk. Boudreaux et al. (2015) recognized that the length of the BSSI — 15 questions — makes it unsuitable for screening in the ED. In a multicenter study, convenience samples of adult medical patients were randomized into one of four groups. Of the PSS-2 participants, 60/459 (13.1%) screened positive, as did 82/492 of the PSS-3 group (16.7%). There was no "statistically significant difference in the proportion of positive screenings between the two PSS models (X^2 [1, N = 951] = 2.4, p > 0.05)" (Boudreaux et al., 2015, p. 155). The PSS-3 results agreed more strongly with the BSSI than PSS-2 regarding active ideation "(kappa difference for active ideation = -0.27 [95% CI, -0.52, -0.12])" (Boudreaux et al., 2015, p. 157). The "BSSI mean scores were higher for those who screened positive overall on the PSS than for those who screened negative (PSS-2, z = 17.46, p < 0.0001; PSS-3, z = 19.29, p < 0.0001)" (Boudreaux et al., 2015, p. 157). There is merit in using PSS-3 to capture positive ideation that may be missed with PSS-2 (Boudreaux et al., 2015).

5. Suicide Affect-Behavior-Cognition Scale (SABCS)

The Joint Commission Sentinel Alert 56 suggested using a waiting-room survey to meet suicide-screening requirements. SABCS is a self-report response survey that allows patients to rate their responses on a Likert scale to measure affective, behavioral, and cognitive aspects of the "life-death struggle of suicidality, the higher the score, the more risk the client is facing" (Harris et al., 2015, p. 15). Harris et al. (2015) used a "tripartite affect-behavior-cognition theory, the suicidal barometer model, classical test theory, and item response theory (IRT) to develop a brief self-report measure of suicide risk that is theoretically-grounded, reliable and valid" (p. 1). In an initial survey (N = 359), an iterative process was applied to an item pool from which six questions were chosen for the SABCS. Three additional studies tested the SABCS and the Suicidal Behaviors Questionnaire - Revised (SBQ-R), determining that it is a valid and reliable tool for suicide screening. The tool was predictive of future suicidal behaviors and suicidality (r = 0.68 and 0.73, respectively). Item response theory (IRT) analysis was used to determine that the SABCS captured information the SBQ-R did not and "better defined participants at low, moderate and high risk" (Harris et al., 2015, p. 1). The SABCS did not demonstrate differential item functioning in regard to sex, age, or ethnicity. The SABCS is therefore a valuable tool for emergency departments to use as a self-report suicide screening tool.

TOOLS THAT CAN BE UTILIZED TO EVALUATE LETHALITY FOR DISCHARGE

1. Behavioral Health Screening-Emergency Department (BHS-ED).

This instrument is a modification of the more comprehensive BHS tool. The BHS-ED focuses on depression, suicidal ideation, posttraumatic stress, risk behaviors, and stress. It is a web-based 37-item instrument with a 14-item follow-up taking approximately 10 minutes to complete, making it feasible to screen patients outside of the initial intake process. The information can then be made available to a triage or primary nurse as he or she assesses the patient. Internal consistency of the instrument was reported to be adequate, and the overall accuracy to range from 78% to 85% (strong sensitivity and specificity) (Fein et al., 2010). Fein et al. studied the BHS-ED to determine if the instrument is a feasible method for identifying adolescent (14–18 years) patients with psychiatric problems within a busy pediatric ED. The authors found there was a significant increase in the number of patients identified with psychiatric complaints (4.2% vs. 2.5%) even though they did not present with a mental health chief complain (Fein et al., 2010).

2. The Columbia-Suicide Severity Rating Scale (C-SSRS)

The Columbia-Suicide Severity Rating Scale (C-SSRS) has been identified as an effective tool to evaluate and quantify the spectrum of suicidal thoughts and behaviors as well as track changes in each. Posner et al. (2011) completed three multisite studies to examine and validate the psychometric properties of the C-SSRS subscales. "The C-SSRS demonstrated convergent and divergent validity with other scales and had a high sensitivity for suicidal behavior" (Posner et al., 2011, p. 1266). This is further supported by results obtained in studies by Gipson, Agarwala, Opperman, Horwitz and King (2015), and King et al. (2015). Gipson et al. (2015) validated the instrument in a convenience sample study of 178 patients. The C-SSRS intensity and severity scale scores were not significant predictors of a return psychiatric evaluation visit (p = 0.13 and 0.18). The intensity scale score "(OR 1.09, 95% CI: 1.01–1.17, p = 0.02) was a predictor of a suicide attempt at return psychiatric emergency department visit, and the severity scale showed evidence of a

positive trend (OR 1.34, 95% CI: 0.99–1.80, p = 0.06)" (Gipson et al., 2015, p. 88). The ED provider may find this helpful in guiding treatment recommendations for the suicidal patient and potential suicide prevention efforts. King et al. (2015) utilized the C-SSRS as the second assessment scale to validate suicide risk in the adolescent population (v2 [1] = 6.51, p = 0.05) with the added benefit of assessing for risk behavior and depression. The C-SSRS can aid the ED provider in assessing the lethality of the suicide risk.

3. Geriatric Depression Scale (GDS) GDS-30/GDS-15/GDS-5

A 15-question depression scale designed to evaluate and scale depression in the elderly gave results in which "the relationship between depressive symptoms and suicide ideation was stronger in the old-old than in the young-old" (Cheng et al., 2010). The GDS-15, GDS-5, and GDS-4 versions were highly correlated ($p < 0.001$). This can be a good secondary screening tool for the geriatric population as it is geriatric-specific and that population may present multiple physical and cognitive challenges to measuring lethality (Cheng et al., 2010).

4. The ReACT Self-Harm Rule

The ReACT Self Harm Rule uses four elements to identify patients who may be at risk for suicide (Steeg et al., 2012). These include 1. Recent self-harm (past year), 2. Living status (alone or homeless), 3. Cutting used as a method of harm, and 4. Currently under treatment for a psychiatric disorder (Steeg et al., 2012). The ReACT Self-Harm Rule is designed to assist with decisions related to aftercare (e.g., the patient is assessed as low risk for repeat self-harm per ReACT Self-Harm Rule and therefore safe to discharge with outpatient follow-up care). Steeg et al. (2012) compared the ReACT Self-Harm Rule to the MSHR (Cooper et al., 2006), which measures "history of self-harm, previous psychiatric treatment, current psychiatric treatment, and benzodiazepine taken as an overdose" (p. 463). When comparing the two tools, Steeg et al. (2012) concluded that MSHR performed with a high degree of sensitivity (95% [95% CI 94–95]), but the ReACT Self-Harm Rule was better at identifying patients who were at low risk for repeat self-harm. Both tools can feasibly be used in an emergency department, but at different times during treatment — MSHR for initial assessment and ReACT Self-Harm Rule for consideration for disposition.

POTENTIAL PREDICTORS FOR SUICIDE

In the absence of well-validated risk assessment tools, certain predictors have been found to be associated with increased risk of suicide. A review of the literature has identified the following broad groups of predictors, which tend to overlap: demographics, prior psychiatric and medical history, and significant life events. These factors are not considered to be all-inclusive, nor should they be used in isolation as predictive of suicidality, but they should be considered in the assessment of individuals who present to the ED.

Description of Decision Options/Interventions and the Level of Recommendation

	Description of Decision Options / Interventions and the Level of Recommendation:	
INITIAL SUICIDE ASSESSMENT	Suicide screening tools should be used as a part of the assessment process for all ED patients. (Ballard, Horowitz, et al. 2013; Boudreaux et al., 2015; Caterino et al., 2013; Coristine et al., 2007; Holden, Kerr, Mendonca, & Velamoor, 1998; Howorwitz, Ballard. 2010; Horowitz et al., 2012; Jacobs et al., 2003; Joint Commission, 2016; King et al., 2015; National Collaborating Center for Mental Health, 2004; O'Mara, Hill, Cunningham, & King, 2012; Royal College of Psychiatrists, 2010).	A
	Previous episodes of deliberate self-harm are a strong predictor of future suicide attempts. (Bergen, Hawton, Waters, Cooper, & Kapur, 2010; Bilén et al., 2011; Haney et al., 2012; National Collaborating Center for Mental Health, 2004; Steeg et al., 2012).	A
	For initial suicide assessment, training ED personnel improves confidence in screening for suicide risk. (Currier et al., 2012; National Collaborating Centre for Mental Health, 2004; Royal College of Psychiatrists, 2010).	B
SUICIDE RISK INSTRUMENTS	There is a moderate amount of evidence to support that the following instruments are valid, feasible, and reliable for initial assessment of suicide risk in the ED: • The Ask Suicide-Screening Questions (ASQ) (Horowitz et al., 2012; Stanley et al., 2015) • Manchester Self-Harm Rule (MSHR) (Bilén et al., 2013; Cooper et al., 2006; Randall et al., 2011) • Risk of Suicide Questionnaire (RSQ) (Ballard, Horowitz, et al., 2013; Folse et al., 2006)	B
	There is a moderate amount of evidence to support that the following instruments may be used to evaluate lethality for discharge from the ED setting: • Behavioral Health Screening Emergency Department (BHS-ED) (Fein et al., 2010) • Columbia Suicide Severity Rating Scale (C-SSRS) (Gipson et al., 2015; King et al., 2015; Posner et al., 2011) • Geriatric Depression Scale (GDS) (Cheng et al., 2010) • The ReACT Self-Harm Rule (Steeg et al., 2012)	B
	There is a weak amount of evidence to support that the following instruments are valid, feasible, and reliable for initial assessment of suicide risk in the ED: • Suicide Affect-Behavior-Cognition Scale (SABC) (Harris et al., 2015) • Patient Safety Screener (PSS) (Boudreaux et al., 2015)	C
	There is insufficient evidence to make a recommendation for the following instruments to be used for further assessment in the ED setting: • Beck Hopelessness Scale (BHS) (Cochrane-Brink et al., 2000; McMillian, Gilbody, Beresford, & Neilly, 2007) • Beck Scale for Suicide Ideation (BSS) (Cochrane-Brink et al., 2000; Holden et al., 1998; McMillian, Gilbody, Beresford, & Neilly, 2007) • Behavioral Activity Rating Scale (BARS) (Schumacher, Gleason, Holloman, & McLeod, 2010) • Centers for Epidemiologic Studies Depression Scale (CES-D) (Joiner, Pfaff, & Acres, 2002) • Centers for Epidemiologic Studies Depression Scale for Children (CES-DC) (Gardner et al., 2010) • Death/Suicide Implicit Association Test (IAT) (Nock, Park, Finn, Deliberto, Dour, & Banaji, 2010) • General Health Questionnaire (GHQ-12) (Joiner, Pfaff, & Acres, 2002) • Geriatric Suicide Ideation Scale (GSIS) (Cheng et al., 2010) • Modified SAD Persons Scale (MSPS) (Bolton, Spiwak, & Sareen, 2012; Cochrane-Brink et al., 2000) • Nurses Global Assessment of Suicide Risk (NGASR) (Cutcliffe & Barker, 2004) • Patient Health Questionnaire (PHQ-2 and PHQ-9) (Arroll et al, 2010; Kroenke et al, 2001; Kroenke et al, 2003; Matarazzo et al, 2012; Richardson et al 2010) • Patient Health Questionnaire for Adolescents (PHQ-A) (Gardner et al, 2010) • SAD Person Scale (SPS) (Bolton et al, 2012; Randall et al, 2011) • Scale for Suicidal Ideation (SSI) (Holden et al, 1998)	I/E

Table Continues on Next Page

CLINICAL PRACTICE GUIDELINE:
Suicide Risk Assessment

Description of Decision Options / Interventions and the Level of Recommendation:		
SUICIDE RISK PREDICTORS	Previous episodes of deliberate self-harm are a strong predictor of future suicide attempts. (Bergen et al., 2010; Bilén et al., 2011; Haney et al., 2012; National Collaborating Centre for Mental Health, 2004; Steeg et al., 2012).	A
	Patients with a history of Major Depressive Disorder (MDD) or Post Traumatic Stress Disorder (PTSD) should be considered at higher risk for suicide. (Bergen et al., 2010; Diefenbach et al., 2009; Dube et al., 2010, Gardner et al., 2010; Haney et al., 2012, Warner et al., 2011).	B
	Patients with the following presentations should be considered at higher risk for suicide: • Chronic illness in adults (Haney et al., 2012; Ilgen et al., 2009; Oude Voshaar et al., 2011) • Binge or high episodic drinking in adolescents and young adults (Aseltine et al., 2009) • History of lethal methods of self-harm and self-cutting (Bergen et al., 2010; Bilén et al. 2013; Haney et al., 2012; Steeg et al., 2012) • Living alone (Ilgen et al., 2009; Steeg et al., 2012) • Lower socioeconomic status (Ilgen et al., 2009; Murphy et al., 2011; Zhang, McKeown, Hussey, Thompson, & Woods, 2005) • Males over 55 years of age (Joe & Niedermeier, 2006; Oude Voshaar et al., 2011) • Recent negative life events (Coristine et al., 2007; Horesh et al., 2003; Joe & Niedermeier, 2006) • Substance abuse (Haney et al., 2012; Ilgen et al., 2009; Ting et al., 2012) • Young females (Cooper et al., 2010; Diefenbach et al., 2009; Gardner et al., 2010; Kuo et al., 2001)	C

A	Level A (High)	Based on consistent and good quality of evidence; has relevance and applicability to emergency nursing practice.
B	Level B (Moderate):	There are some minor inconsistencies in quality of evidence; has relevance and applicability to emergency nursing practice.
C	Level C (Weak)	There is limited or low quality patient-oriented evidence; has relevance and applicability to emergency nursing practice.
NR	Not Recommended	Not recommended based upon current evidence.
I/E	Insufficient Evidence	Insufficient evidence upon which to make a recommendation.
N/E	No Evidence	No evidence upon which to make a recommendation.

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CLINICAL PRACTICE GUIDELINE:
Suicide Risk Assessment

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Acknowledgments

ENA would like to acknowledge the work of the 2012 Emergency Nursing Resources Development Committee for the initial development of this document. ENA also acknowledges the following members of the 2016 Institute for Emergency Nursing Research (IENR) Advisory Council for their review of this document:

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Developed: December 2012
Revised: 2017

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CLINICAL PRACTICE GUIDELINE:
Suicide Risk Assessment
Appendix 1: Evidence Table

Reference	Research/Purpose Questions/Hypothesis	Design/Sample Setting	Variables/Measures Analysis	Findings/Implications	Quality of Evidence	Level of Evidence
American Psychiatric Association. (2016). *Practice guidelines for the psychiatric evaluation of adults* (3rd ed.). Arlington, VA: Author. Retrieved from http://psychiatryonline.org/doi/pdf/10.1176/appi.books.9780890426760	Purpose: To inform general, emergency, and consultation evaluations for clinical purposes. It is applicable to evaluations conducted by a psychiatrist with adult patients (age 18 or older), although sections may be applicable to younger patients.	Design/Methods: Systematic review of the available literature 1994–2005 Sample: N = 1,927 references, with N = 731 of these published with abstracts in English	Measures: The search strategy yielded 19,429 references, of which 7,894 were published between 1994 and 2005 in English and had associated abstracts. An additional search yielded 1,927 references, with 731 of these published with abstracts in English between the years 1994 and 2005.	Assess and enhance the safety of the patient and others. Establish a provisional diagnosis of the mental disorder. Identify involved persons who can give information that will help the psychiatrist determine the accuracy of reported history. Caregiver's understanding of condition is necessary before discharge. Identify any current treatment providers, social, environmental, and cultural factors relevant to immediate treatment decisions. Assess patient for ability to form alliance, current status, and if there is a need for involuntary commitment. Develop a specific plan for follow-up, including immediate treatment and disposition.	I	V
Arroll, B., Goodyear-Smith, F., Crengle, S., Gunn, J., Kerse, N., Fishman, T., . . . Hatcher, S. (2010) Validation of PHQ-2 and PHQ-9 to screen for major depression in the primary care population. *Annals of Family Medicine,* 8(4), 348–353. doi:10.1370/afm.1139	Purpose: "To validate the PHQ-2 and PHQ-9 against the standard of the computerized Composite International Diagnostic Interview to detect unipolar depression" (p. 348)	Design/Method: 1 arm of a 3 arm randomized control trial Variable: Primary care setting Sample: N = 2642 Setting: Primary care setting in Auckland	Measures: Statistical analysis completed with center for evidence-based-medicine calculator on University of Toronto website.	The PHQ-2 and PHQ-9 demonstrated good sensitivity for the detection of depression yet lacked specificity (p. 348).	II	VI
Aseltine, R. H., Schilling, E. A., James, A., Glanovsky, J. L., & Jacobs, D. (2009). Age variability in the association between heavy episodic drinking and adolescent suicide attempts: Findings from a large-scale, school-based screening program. *Journal of American Academy of Child and Adolescent Psychiatry*, 48(3), 262–270. doi:10.1097/CHI.0b013e318195bce8	Purpose: To use a school-based screening program to study age variability and its association with "heavy, episodic drinking and adolescent suicide attempts" (p. 263)	Design/Methods: Descriptive, cross-sectional Sample: 32,217 students Setting: Students from 225 schools in the US; SOS (Signs of suicide) school-based program used.	Measures: Columbia depression scale (CDS) used to assess depressive and suicidal symptoms; program screening forms used to collect data. Statistical Analysis: Logistic regression analyses to determine association "between heavy episodic drinking and self-reported suicide attempts" (p. 264)	Heavy episodic drinking (HED) increased with age and was more prevalent with boys. Suicide attempts were more prevalent in girls. Association "between depressive symptoms and suicide attempts was significant ($p < 0.001$)" (p. 265). Odds ratio of 1.78 ($p < 0.05$) demonstrated that those with depressive symptoms were twice as likely to report suicide attempt.	I	IV

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Ballard, E. D., Horowitz, L. M, Jobes, D. A, Wagner, B. M, Pao, M., & Teach, S. J. (2013). Association of positive responses to suicide screening questions with hospital admission and repeated emergency department visits in children and adolescents. *Pediatric Emergency Care,* 29(10), 1070–1074. doi:10.1097/pec.0b013e3182a5cba6	Purpose: To see if there are links "between positive screening exams for suicide risk and immediate psychiatric hospital admission" (p. 1070)	Design/Methods: Retrospective cohort study identifying patients presenting with psychiatric chief complaints IRB approval obtained. Variables: Restricted to patients presenting with psychiatric complaints Sample: N = 442 pts Retrospective chart review Setting: Pediatric ED	Measures: Appropriate statistical analysis/logistic regression analysis	The identification of positive RSQ screens in the younger population (aged 8–12 years) and return psychiatric emergency visits indicating the need for follow up and psychiatric resources. Positive RSQ screens in the older population (aged 13–18 years) and psychiatric hospitalization.	I	VI
Ballard, E. D., Stanley, I. H., Horowitz, L. M., Pao, M., Cannon, E. A., & Bridge, J. A. (2013). Asking youth questions about suicide risk in the pediatric emergency department: Results from a qualitative analysis of patient opinions. *Clinical Pediatric Emergency Medicine,* 14(1), 20–27. doi:10.1016/j.cpem.2013.01.001	Purpose: To describe opinions on "screening for suicide risk in a second sample of pediatric ED patients" (p. 20) from Columbus, OH aged 10–21 years	Design/Methods: Convenience sample Qualitative analysis IRB: Yes Variables: Limited to pediatric ED Sample: N = 165 Setting: Nationwide Children's Hospital, an urban pediatric ED	Measures: NVivo9.2 used for data analysis	The themes found in this study were similar to those found in a previous study using opinions from another pediatric ED sample with different demographics. It provides further support to the acceptability of suicide risk screening efforts in the pediatric ED.	I	IV
Bergen, H., Hawton, K., Waters, K., Cooper, J., & Kapur, N. (2010). Psychosocial assessment and repetition of self-harm: The significance of single and multiple repeat episode analyses. *Journal of Affective Disorders*, 127(1–3), 257–265. doi:10.1016/j.jad.2010.05.001	Questions: "1. Does psychological assessment at first episode of self-harm decrease risk of repeat episode? 2. Is survival time between each episode (in the first 6 episodes) related to psychosocial assessment at previous episode?" (p. 258)	Design/Methods: Prospective review of data "from Multicentre Study on Self-harm on patients admitted for self-harm in hospitals in Oxford, Manchester, Derby in UK from 2000–2007" (p. 258)	Measures: 1. Independent episodes counted using Andersen-Gill process 2. Stratified episodes via Prentice, Williams, Peterson conditional risk set approach 3. Survival analyses used Cox proportional hazards models, did post-estimation test statistic	Identification of the decrease in risk for patients that receive psychosocial assessment when they present to ED with self-harm injuries. The act of self-harm increases the risk of repeat behaviors and caregivers should be aware of previous attempts of self-harm and have access to medical records	I	VI

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Reference	Research/Purpose Questions/Hypothesis	Design/Sample Setting	Variables/Measures Analysis	Findings/Implications	Quality of Evidence	Level of Evidence
Bilén, K., Ottosson, C., Castrén, M., Ponzer, S., Ursing, C., Ranta, P., . . . Pettersson, H. (2011). Deliberate self-harm patients in the emergency department: Factors associated with repeated self-harm among 1524 patients. *Emergency Medicine Journal, 28*(12), 1019–1025. doi:10.1136/emj.2010.102616	Purpose: To investigate patients who present to an ED with history of deliberate self-harm (DSH) for: 1. Risk factors associated with repeated DSH; 2. Stratification of patients via risk categories for DSH; 3. Estimation of proportion with DSH repeated within 12 months.	Design/Methods: Descriptive/correlational Retrospective review of hospital records and national databases Approved by Regional Ethics Committee at study hospital Sample: N = 1524 adults Setting: Large Scandinavian ED	Measures: Medical and psychological data collected from patients with history of DSH from all methods Structured protocol used to collect data Cox proportional hazard model used to evaluate influence of different factors on the risk of repetition	Patients seen in this ED had a high risk of repeating DSH behavior. Pts with prior history of DSH and prior psychiatric contact or suicidal intention may be at higher risk for repeat DSH. .	I	VI
Bilén, K., Ponzer, S., Ottosson, C., Castrén, M., & Pettersson, H. (2013). Deliberate self-harm patients in the emergency department: Who will repeat and who will not? Validation and development of clinical decision rules. *Emergency Medicine Journal. 30*, 650–656. doi:10.1136/emermed-2012-201235	Purpose: 1. Use a new setting to validate the Manchester Self-Harm Rule (2) Develop and compare rules for clinical decisions on repeated self-harm	Design/Method: Retrospective study based on national database of consecutive DSH patients Variables: Survey restricted to DSH patients Setting: Swedish emergency department	Measures: N = 1524 Consecutive series selection of deliberate self-harm patients Logistic regression, area under the curve, and classification trees	Overall it was found that around 20% of patients repeat self-harm within 6 months. The sensitivity was high and specificity was low for effectiveness of the Manchester Self-Harm Rule.	I	VI

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Bolton, J. M., Spiwak, R., & Sareen, J. (2012). Predicting suicide attempts with the SAD PERSONS scale: A longitudinal analysis. *The Journal of Clinical Psychiatry, 73*(6), e735–741. doi:10.4088/JCP.11m07362	Purpose: "To examine the ability of the SAD PERSONS scale to predict suicide attempts" (p. 735)	Design/Methods: Multi-center longitudinal study Methods: Consecutive referrals to psychiatric services in the ED were examined by psychiatric resident and then the attending physician completed SAFE (suicide assessment form in emergency psychiatry). Database Study that included three assessment scales. IRB approval obtained. Sample: N = 4019 Setting: Two large tertiary-care hospitals in Canada	Measures: Current and future suicide attempts Receiver operating characteristics (ROC) of the scales Instruments: SAD PERSONS Scale, Modified SAD PERSONS Scale (MSPS), Columbia Classification Algorithm for Suicide Assessment (C-CASA) Statistics: Backward stepwise logistic regression, ROC and AUC	Current attempt: Half the participants presenting for suicide attempt were scored as low risk by SADPERSONS scale; one quarter of those scoring high risk did not a have suicide attempt. Sensitivities of high score compared to the low risk were SAD PERSONS (24%) and MSPS (41%). Future attempt: There was a high false negative rate when comparing high risk to low risk, resulting in low sensitivity values SAD PERSONS (19.6%) and MSPS (40%). ROC-SADPERSONS had an AUC of 0.572, suggesting no better than chance prediction; MSPS had AUC of 0.613, indicating low accuracy. Conclusions: "SAD PERSONS and MSPS scales do not appear to be effective tools to assess suicide attempt risk." (p. e740)	I	VI
Boudreaux, E. D., Jaques, M. L., Brady, K. M., Matson, A., & Allen, M. H. (2015). The patient safety screener: Validation of a brief suicide risk screener for emergency department settings. *Archives of Suicide Research, 19*(2), 151–160. doi:10.1080/13811118.2015.1034604	Purpose: "To validate two shorter versions of the PSS (PSS-2 and PSS-3) against the BSSI as references to identify risk of suicide" (p. 151)	Design/Methods: Randomized control trial Variables: 1. Data collection was limited to between 0900–2100 hours. 2. The sample was likely healthier than the average ED patient. Patients medically, emotionally, and cognitively healthy Setting: 3 EDs, part of the University of Massachusetts Memorial Health System	Measures: Validation of shorter tool for suicide screening Instruments: PSS-2 & PSS-3, BSSI Statistics: Descriptive statistics	Screening questions should include screening for lifetime attempts as the question demonstrated high reliability of agreement with BSSI. The two PSS versions demonstrated high reliability when compared with the BSSI.	II	VI

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Reference	Research/Purpose Questions/Hypothesis	Design/Sample Setting	Variables/Measures Analysis	Findings/Implications	Quality of Evidence	Level of Evidence
Caterino, J. M., Sullivan, A. F., Betz, M. E., Espinola, J. A., Miller, I., Camargo, C. A., & Boudreaux, E. D. (2013). Evaluating current patterns of assessment for self-harm in emergency departments: A multicenter study. *Academic Emergency Medicine, 20*(8), 807–815. doi:10.1111/acem.12188	Purpose: To describe practices regarding self-harm assessment and identify predictors of these assessments.	Design/Methods: Prospective, observational convenience sample of adults Sample: N = 94,354 Setting: Multicenter emergency departments	Measures: "The primary outcome variable was ED assessment for self-harm thoughts or behaviors, which were considered present if there was any documentation in the ED record by treating clinicians" (p. 4) Instruments: All analyses were conducted using STATA 12 and descriptive statistics	A small number of charts actually had self-harm assessment documented and current self-harm was found in less than 3% of these charts. There were higher rates of assessments at those sites that required them.	II	VI
Chang, B. P., & Tan, T. M. (2015). Suicide screening tools and their association with near-term adverse events in the ED. The American Journal of *Emergency Medicine, 33*(11), 1680–1683. doi:10.1016/j.ajem.2015.08.013	Purpose: To see if there is any link between suicide screening tools and clinical evaluation with patients who have psychiatric admission after self-harm attempt.	Design/Methods: Prospective observational study Convenience sample IRB: Yes Sample: N = 50 patients N = 150 providers Setting: ED	Measures: Receiver operating characteristic (ROC) curves of the suicide instruments and ED provider clinical impression relative to the near-term outcome measures Logistic regressions and the Wald test for individual parameters to calculate odds ratios for screening instruments and clinical impression ratings in predicting adverse near-term outcomes	The use of the Beck Scale for Suicide Ideation, Patient Health Questionnaire 9, and the Columbia Suicide Severity Scale were not effective in predicting admission to a psychiatric facility. These data illustrate the need for the development of ED-based suicide screening tools.	III	VI

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Cheng, S. T., Yu, E. C., Lee, S. Y., Wong, J. Y., Lau, K. H., Chan, L. K., . . . Wong, M. W. (2010) The geriatric depression scale as a screening tool for depression and suicide ideation: A replication and extension. *American Journal of Geriatric Psychiatry, 18*(3) 256–265. doi:10.1097.jgp.0b013e3181bf9edd	Purpose: To compare three versions of the Geriatric Depression Scale (GDS) to identify depression and suicide ideation and determine if equally effective in young-old and old-old adults	Design/Methods: Descriptive methods: Triage nurse completed GDS in face to face interview; patients were then assessed for suicidal ideation by psychiatrist who was blinded to the GDS results regarding SI IRB obtained. Sample: N = 150 older Chinese adults Setting: Hong Kong Hospital	Measures: Predicting depression and SUICIDE using GDS Instruments: GDS-15, GDS-5, GDS-4 Statistics: ROC, AUC, PPV, NPV	Alpha coefficients: GDS-15 (0.87%), GDS-5 (0.7%) and GDS-4 (0.76%). The GDS-15 and GDS-5 were highly correlated ($p < 0.001$). The GDS-4 correlated with GDS-15 and GDS-5 ($p < 0.001$). There were no differences in ROC and AUC across ages. Conclusion: Older geriatric patients were found to have a stronger correlation of depressive symptoms with suicidal ideations.	I	VI
Cochrane-Brink, K. A., Lofchy, J. S., & Sakinofsky, I. (2000). Clinical rating scales in suicide risk assessment. *General Hospital Psychiatry, 22*(6), 445–451. doi:10.1016/S0163-8343(00)00106-7	Hypothesis: Patients who scored highly on the clinical scales were more likely to be admitted	Design/Method: Compared the 6 scales to clinical assessments by the psychiatric ED team. Sample: N = 55 adult patients. A sub-group of 28 patients from the total sample agreed to complete the self-report, questionnaire package Setting: Emergency room at The Centre for Addiction and Mental Health (CAMH)	Measures/Instruments: The scales that were used to measure predictors of suicide were: Modified SAD PERSONS (MSPS); Beck Depression Inventory (BDI); Beck Hopelessness Scale (BHS); Beck Anxiety Inventory (BAI); Beck Scale for Suicide Ideation (BSS), and the High-Risk Construct Scale (NEW).	Of the six scales, the newest scale, which was untested, was the best predictor for suicide risk, followed by the BSS.	II	VI
Cooper, J., Kapur, N., Dunning, J., Guthrie, E., Appleby, L., & Mackway-Jones, K. (2006). A clinical tool for assessing risk after self-harm. *Annals of emergency medicine, 48*(4), 459–466. doi:10.1016/j.annemergmed.2006.07.944	Purpose: To develop a risk-stratification model for use by ED	Design/Method: Prospective study monitoring self-harm Sample: N = 9,086 episodes Setting: 5 EDs in Manchester and Salford, UK, during 1997–2001	Measures/Instruments: Classification and regression trees were used to find the best combinations of variables that would be sensitive for predicting or detecting self-harm and patients who were at a higher risk for repeated self-harm.	The 4-question Manchester Self-Harm Rule in the derivation sample predicted 94% (92.1–95.0% [95% CI]) of repeated self-harm and 25% (24.2–26.5% [95% CI]) of the non-repeaters of self-harm. The findings were reproducible with the validation data.	I	IV

CLINICAL PRACTICE GUIDELINE:
Suicide Risk Assessment
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Reference	Research/Purpose Questions/Hypothesis	Design/Sample Setting	Variables/Measures Analysis	Findings/Implications	Quality of Evidence	Level of Evidence
Cooper, J., Murphy, E., Webb, R., Hawton, K., Bergen, H., Waters, K., & Kapur, N. (2010). Ethnic differences in self-harm, rates, characteristics and service provision: Three-city cohort study. *The British Journal of Psychiatry, 197*(3), 212–218. doi:10.1192/bjp.bp.109.072637	Purpose: "To calculate age- and gender-specific rates of self-harm by ethnic group in three cities and compare characteristics and outcomes" (p.212)	Design/Methods: Prospective, multicenter cohort study Self-harm data were collected from computer ED record using definitions consistent across all sites for intentional self-poisoning or self-injury regardless of intent or motivation. Ethnicity was coded as "South Asian", "Black", or "White"; "other" was excluded. IRB approved Sample: N = 14,997 Setting: Three facilities in the US	Measures/Instruments: Self-harm rate by age/gender and gender/ethnicity	Conclusion: "Black females were at risk of self-harm in the three cities studied (p. 213)." "Black and minority ethnic groups were less likely to receive psychiatric assessment and follow up compared to white participants" (p. 215). "Older ethnic minorities of both genders had lower rates of self-harm compared to white participants" (p. 216).	I	IV
Coristine, R. W., Hartford, K., Vingilis, E., & White, D. (2007). Mental health triage in the ER: A qualitative study. *Journal of Evaluation in Clinical Practice, 13*(2), 303–309. doi:10.1111/j.1365-2753.2006.00759.x	Objectives: Qualitative "research to study perceptions of a new triage and crisis worker (CW)" (p. 303)	Design/Method: Qualitative phenomenological approach Sample: N = 161 Setting: London's Health Science Centre's (LHSC) Emergency Department in London, Ontario, Canada	Measures/Instruments: NUD-ist Qualitative Data Analysis Software Program was used	The need for a defined triage process along with the need for psychiatric staff in the ED might be beneficial. Patients with mental health issues use the ED related to social stressors. The perception of ED staff members of the benefits of the program facilitated the suggestion of increasing availability of the psychiatric support team.	I	VI
Currier, G. W., Litts, D., Walsh, P., Schneider, S., Richardson, T., Grant, W., . . . Moscati, R. (2012). Evaluation of an emergency department educational campaign for recognition of suicidal patients. *The Western Journal of Emergency Medicine, 13*(1), 41–50. doi:10.5811/westjem.2011.6.6803	Purpose: "To evaluate the impact of an educational intervention designed to help physicians in detecting suicidal behaviors in the ED when the patient presents with a non-behavioral health complaint" (p. 41)	Design/Method: Educational intervention utilizing posters and a clinical guide for providers in the ED. Setting: 5 EDs were utilized with each ED having 4 staff members participating in the survey and interventions	Measures/Instruments: Surveys at baseline after intervention initiated and at the conclusion of the study Statistical Analysis: Chi-square test comparison was utilized	Post intervention survey demonstrated increased or improved knowledge or skills in assessing suicide risk.	III	VI

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Reference	Research/Purpose Questions/Hypothesis	Design/Sample Setting	Variables/Measures Analysis	Findings/Implications	Quality of Evidence	Level of Evidence
Cutcliffe, J. R., & Barker, P. (2004). The nurses' global assessment of suicide risk (NGASR): Developing a tool for clinical practice. *Journal of Psychiatric and Mental Health Nursing, 11*(4), 393–400. doi:10.1111/j.1365-2850.2003.00721.x	Purpose: To describe the NGASR background and preliminary evaluation in practice	Design/Method: Literature review Studies containing specific variable related to increased suicide risk were used to develop a 15-item tool to assess for risk of suicide within the "Tidal Model". Sample: 18 senior nurses and an expert panel of " senior clinical nurses, and some senior psychiatric nurses" Setting: Canada	Measures/Instruments: Face validity, content validity, and use in clinical practice	Face validity obtained from expert panel. Content validity obtained through three step process: 1. expert panel; 2. review of suicide assessment tools; 3. Expert consensus Conclusion: The NGASR provides nurses with a template for assessment for patients at risk of suicide.	II	VI
DeMaso, D. R., Martini, D. R., & Cahen, L. A. (2009). Practice parameter for the psychiatric assessment and management of physically ill children and adolescents. *Journal of the American Academy of Child and Adolescent Psychiatry, 48*(2), 213–233. doi:10.1097/CHI.0b13e3181908bf4	Purpose: To describe the American Academy of Child and Adolescent Psychiatry's (AACAP) practice parameter to assist clinicians in psychiatric assessment and management of physically ill children	Design/Methods: Systematic review Iterative process in accordance with American Medical Association policy PubMed and PsycINFO search of articles published between 1986–2006 Sample: N = 275 articles	Measures: "Practice parameter developed from the systematic review to assist clinician in psychiatric decision making" (p. 230)	Mental health and medical professionals need to collaborate to provide care for the patient. Psychological and behavioral symptoms, religious and cultural beliefs, and legal issues should be considered. Psychopharmacological medication and complementary and alternative medicine should be considered as treatment options.	I	VII

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Reference	Research/Purpose Questions/Hypothesis	Design/Sample Setting	Variables/Measures Analysis	Findings/Implications	Quality of Evidence	Level of Evidence
Diefenbach, G. J., Woolley, S. B., & Goethe, J. W. (2009). The association between self-reported anxiety symptoms and suicidality. *The Journal of Nervous and Mental Disease, 197*(2), 92–97. doi:10.1097/NMD.0b013e318196127c	Purpose: "To assess whether one or more of three anxiety symptoms are associated with increased likelihood to report suicidality" (p. 92)	Design/Methods: Cross-sectional Variables: Patients completed questionnaire containing routinely collected measures of self-rated anxiety described as fear, anxiety, and panic at admission. Sample: 2,778 adult psychiatric outpatients N = 129 were excluded because of incomplete outcome measures. Setting: Large non-profit psychiatric hospital	Measures: Prevalence of self-report of anxiety symptoms defined as "fear, anxiety, panic", suicidality, depressive symptoms. Statistics: Contingency table analytics to calculate unadjusted odds ratio (OR), confidence intervals (95%CI), and logistic regression	Anxiety has a correlation with increased suicide ideation apart from other demographic and clinical presentations	I	VI
Dube, P., Kurt, K., Bair, M. J., Theobald, D., & Williams, L. S. (2010). The p4 screener: Evaluation of a brief measure for assessing potential suicide risk in 2 randomized effectiveness trials of primary care and oncology patients. *The Primary Care Companion to The Journal of Clinical Psychiatry, 12*(6), e1–e8. doi:10.4088/PCC.10m00978blu	Purpose: To evaluate a screening tool's ability to assess for potential suicidal risk VS	Design/Methods: Prospective randomized trials in primary care and oncology Sample & Setting: Primary care: N = 250 patients Oncology: N = 309 patients	Measurements: p4 screening questions were previously tested as part of the Stepped Care for Affective Disorders and Musculoskeletal Pain (SCAMP) and Indiana Cancer Pain and Depression (INCPAD) trials.	17.6% of SCAMP and 16.5% of INCPAD triggered the suicide assessment at least once. The p4 screener may be effective to identify potential suicide risk in clinical care.	II	II

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Fein, J. A., Pailler, M. E., Barg, F. K., Wintersteen, M. B., Hayes, K., Tien, A. Y., & Diamond, G. S. (2010). Feasibility and effects of a web-based adolescent psychiatric assessment administered by clinical staff in the pediatric emergency department. *Archives of Pediatric & Adolescent Medicine, 164*(12), 1112–1117. doi:10.1001/archpediatrics.2010.213	Purpose: 1. To see how many facilities adopted the Behavioral Health Screening-Emergency Department (BHS-ED) system, which is internet based. 2. To assess BHS-ED effectiveness in "identification and assessment of psychiatric problems in adolescent population" (p. 1112)	Design/Methods: Descriptive before and after design Sample: N = 3,979 adolescents aged 14–18 years with non-psychiatric symptoms Setting: Urban, tertiary care pediatric ED	Measures: Statistical analysis: Chi-square and Fisher exact tests	"The implementation of the BHS can increase the odds of identification of occult psychiatric illness in the ED. Patients who were asked to complete the BHS-ED screening were more likely to be identified as having a psychiatric illness (7.8% compared to 2.5%) and to be assessed by SW or psychiatrist (5.8% compared to 1.7%)" (p. 1115).	I	VI
Folse, V. N., Eich, K. N., Hall, A. M., & Ruppman, J. B. (2006). Detecting suicide risk in adolescents and adults in an emergency department: A pilot study. *Journal of Psychosocial Nursing and Mental Health Services, 44*(3), 22–29.	Purpose: 1) To test the reliability and validity of the RSQ tool 2) To assess the incidence of reported "suicide risk in both adolescents and adults who sought treatment in an emergency department" (p. 253)	Design/Methods: Convenience sample N = 104 adolescent and adult patients, 39 aged 12–24 and 65 aged 25 and older. IRB: Yes Setting: Study was done at a level 1 trauma center located in the Midwest.	Measures: Cronbach's alpha coefficients, Pearson's correlation coefficient, and psychometric analysis.	Reliability (Internal consistency) of RSQ Reliability could not be established with pts older than 65 due to sample size. When given all 4 questions, reliability was low in adults and adolescents. When the using the first two questions, there was a high degree of reliability for adults and little change noted with the adolescents.	III	VI

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Appendix 1: Evidence Table

Reference	Research/Purpose Questions/Hypothesis	Design/Sample Setting	Variables/Measures Analysis	Findings/Implications	Quality of Evidence	Level of Evidence
Gardner, W., Klima, J., Chisolm, D., Feehan, H., Bridge, J., Campo, J., . . . Kelleher, K. (2010). Screening, triage, and referral of patients who report suicidal thought during a primary care visit. *Pediatrics, 125*(5), 945–951. doi:10.1542/peds.2009-1964	Purpose: To determine: 1. If adolescents report suicidal thoughts knowing that MD will review their answers 2. The characteristics of patients who reported suicidal thoughts 3. If an adolescent discloses suicidal thoughts on a primary screen, how often does he/she later receive a mental health service?" (p. 945)	Design/Method: Prospective descriptive study Sample: 1547 youths aged 11–20 completed screens via a wireless tablet computer. 44 youths were eliminated owing to missing data, leaving 1503 surveys to assess. Setting: Nine primary care clinics in an urban system from June 2005 through July 2006	Measures/Instruments: Suicide risk measured using the Patient Health Questionnaire for Adolescents (PHQ-A); injury risk-measured using the "Youth Risk Behavior Survey (YRBS); depressive symptoms measured using the Centers for Epidemiologic Studies Depression scale for children (CES-DC). Substance use was measured using items from the Comprehensive Addiction Severity index for Adolescents (CASIA) (p. 947). Statistical Analysis: Logistic regression	209/1547 youths "had serious thoughts about taking their own lives in the previous month" Suicide was associated with younger age. 182 of the 209 youths who reported suicidal thoughts reported at least one problem with substances, carrying a weapon, or fighting that resulted in injury. Based on "triage, mental health evaluations were recommended for 152 out of 205" (p. 945).	II	VI
Gipson, P. Y., Agarwala, P., Opperman, K. J., Horwitz, A., & King, C. A. (2015). Columbia-suicide severity rating scale: Predictive validity with adolescent psychiatric emergency patients. *Pediatric Emergency Care, 31*(2), 88–94. doi:10.1097/pec.0000000000000225	Purpose: "To examine the predictive validity of a highly promising instrument, the Columbia-Suicide Severity Rating Scale (C-SSRS)" (p. 88)	Design/Methods: Retrospective IRB approval: Yes Variables: Limited to adolescents seeking psychiatric emergency (PE) services Sample: N = 158 adolescents Setting: Emergency department	Measures: Chi-square, independent samples t-tests, one-way analysis of variance, Fisher exact tests, logistical regression models	C-SSRS intensity score demonstrated validity as a predictor of future PE visits. The severity scale did not demonstrate validity. Consideration should be given to the duration of thoughts of suicide as increased duration will increase the risk.	II	VI

Reference	Research/Purpose Questions/Hypothesis	Design/Sample Setting	Variables/Measures Analysis	Findings/Implications	Quality of Evidence	Level of Evidence
Haney, E. M., O'Neil, M. E., Carson, S., Low, A., Peterson, K., Denneson, L. M., . . . Kansagara, D. (2012). *Suicide risk factors and risk assessment tools: A systematic review*. Retrieved from the National Center for Biotechnology Information website: http://www.ncbi.nlm.nih.gov/books/NBK92671/pdf/TOC.pdf	Purpose: To review evidence related to "risk factors and risk assessment tools within veteran and military populations to develop clinical practice guideline specific to these populations." (p. 1) Questions to be answered: "What assessment tools are effective for assessing risk of engaging in suicidal self-directed violence in veteran and military populations?" "What other risk factors predict suicidal self-directed violence in veteran and military populations?" (p. 1)	Design/Methods: Reviewed RCT's, peer reviewed articles related to suicidal self-directed violence Sample: 16,521 titles and abstracts from several searches were reviewed. 15,743 were rejected because they did not meet established inclusion criteria, leaving 778 articles submitted for more detailed review. 732 of these were excluded, leaving 30 observational studies and 14 systematic reviews.	Measures: Oxman and Guyatt criteria were used (Oxman, A. D., & Guyatt, G. H. (1991). Validation of an index of the quality of review articles. Journal of Clinical Epidemiology, 44(11), 1271–1278.)	The systematic review was unable to identify a validated risk assessment tool to recommend for practice. Risk factors identified in the systematic review are the established factors of "white race, male gender, psychiatric disorders, substance use disorders, and trauma" (p. 30).	I	I
Happell, B., Summers, M., & Pinikahana, J. (2002). The triage of psychiatric patients in the hospital emergency department: A comparison between emergency department nurse and psychiatric nurse consultants. *Accident and Emergency Nursing, 10*(2), 65–71. doi:10.1054/aaen.2001.0336	Purpose: To determine the "degree of concordance between ED triage nurses and psychiatric specialist nurse" (p. 68) consultants in use of the Mental Health Triage Scale (MHTS) prior to introduction education	Design/Methods: Descriptive study ED triage nurses completed a questionnaire developed by the authors for all patients presenting with psychiatric complaints. Setting: ED in Melbourne, | Australia.	Measures: 1) Comparison of triage scores 2) Diagnosis 3) Interrater reliability Instruments: MHTS Statistics: kappa statistics, central tendency	"ED nurses assigned more patients to category 2 while specialist nurses were more likely to assign category 5" (p. 69). Poor agreement between psychiatric nurse and emergency department nurse assignment of triage category (kappa coefficient 0.029)	II	VI

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Reference	Research/Purpose Questions/Hypothesis	Design/Sample Setting	Variables/Measures Analysis	Findings/Implications	Quality of Evidence	Level of Evidence
Harris, K. M., Syu, J.-J., Lello, O. D., Chew, Y. L. E., Willcox, C. H., & Ho, R. H. M. (2015). The ABC's of suicide risk assessment: Applying a tripartite approach to individual evaluations. *PLoS One, 10*(6), 1–21. doi:10.1371/journal.pone.0127442	Purpose: "To test the hypothesis that a new scale could demonstrate construct validity, sensitivity to change, higher reliability, statistically greater predictive ability, greater convergent validity, and would be more effective at capturing information relevant to low, moderate, and high suicidality" (p. 5) .	Design/Methods: Multi-method, randomized, multi-study of four independent samples IRB approval: Yes Sample: Independent samples Study 1: (N = 359) Study 2: (N = 1007) Study 3: (N = 713) Study 4: (N= 72)	Measures: Suicidal Behaviors Questionnaire Revised, psychosocial measures. 1. SPSS v. 22IRT analysis was done by R 3.1.2 (pumpkin helmet), Itm package, and EasyDIF for DIF analysis. 1. Spearman–Brown prophesy coefficients 2. Steiger's Z	Initial study of SABC indicated improved prediction of suicidal behaviors.	I	II
Holden, R. R., Kerr, P. S., Mendonca, J. D., & Velamoor, V. R. (1998). Are some motives more linked to suicide proneness than others? *Journal of Clinical Psychology, 54*(5), 569–576. doi:10.1002/(SICI)1097-4679(199808)54:5<569::AID-JCLP2>3.0.CO;2-G	To compare BCC risk in specimens collected through PIV and venipuncture.	Matched historical cohort of specimens. Compared BCC in specimen collected via PIV with specimen collected by venipuncture in the same patient within 10 minutes of each other.	Relative risk of BCC calculated	Collection of blood cultures from a PIV was associated with a relative risk of BCC of 1.83; 95% CI [1.08, 3.11])	I	IV

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Reference	Research/Purpose Questions/Hypothesis	Design/Sample Setting	Variables/Measures Analysis	Findings/Implications	Quality of Evidence	Level of Evidence
Horesh, N., Sever, J., & Apter, A. (2003). Comparison of life events between suicidal adolescents with major depression and borderline personality disorder. *Comprehensive Psychiatry, 44*(4), 277–283. doi:10.1016/S0010-440X(03)00091-9	Purpose: To study relationships between significant life events (SLE), "major depressive disorder (MDD), and borderline personality disorder (BPD)" (p. 278) Patient groups came from consecutive referrals.	Design/Methods: Retrospective descriptive/correlational Participants selected from consecutive referrals to pediatric psychiatric clinic in Israel. All subjects from Israel spoke Hebrew. Suicide attempts used self-poisoning with prescription drugs. Sample: Three groups of adolescents: 20 participants with history of first suicide attempt and DSM-IV criteria for MDD; 20 participants with history of first suicide attempt and DSM-IV criteria for BPD; 20 age- and sex-matched normal controls.	Measurements: Life Events Checklist (51-item); Childhood Sexual Abuse Questionnaire (4 categories of sexual abuse with 17 questions per category); Suicide Risk Scale (26 item); Beck Depression Inventory (21 items) ANOVA analysis of variance	Participants who attempted suicide had significant differences in total and negative SLE in the 12 months prior to attempt Cumulative effects of SLE over a one year period can increase the risk of suicide.	II	VI
Horowitz, L., Bridge, J. A., Teach, S. J., Ballard, E., Klima, J., Rosenstein, D. L., . . . Pao, M. (2012). Ask suicide-screening questions (ASQ): A brief instrument for the pediatric emergency department. *Archives of Pediatrics & Adolescent Medicine, 166*(12), 1170–1176. doi:10.1001/archpediatrics.2012.1276	Purpose: To develop a screening tool that could evaluate pediatric and young adults for suicide risk while being seen in the ED for medical and/or surgical reasons	Design/Method: IRB approval: yes Variability: "Participants answered 17 candidate questions followed by the Suicidal Ideation Questionnaire"(p.1171) Sample: N = 524 Setting: 3 selected inpatient units	Measures: Chance-corrected kappa statistic, logistic regression model, 95% confidence intervals	Ask Suicide-Screening Questions (ASQ) instrument (4 question screen) was found to accurately assess suicide risk in the pediatric population being treated in the ED for med/surg reasons. Signs and symptoms of one. Four question suicide risk screening tool is ideal for EDs because it doesn't overburden the team with limited MH resources.	II	VI

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Reference	Research/Purpose Questions/Hypothesis	Design/Sample Setting	Variables/Measures Analysis	Findings/Implications	Quality of Evidence	Level of Evidence
Ilgen, M. A., Walton, M. A., Cunningham, R. M., Barry, K. L., Chermack, S. T., De Chavez, P., & Blow, F. C. (2009). Recent suicidal ideation among patients in an inner city emergency department. *Suicide and Life-Threatening Behavior, 39*(5), 508–517. doi:10.1521/suli.2009.39.5.508	Purpose: To examine the level of suicidal ideation in patients who are seeking general care in an ED to understand the prevalence and characteristics of these high-risk individuals	Design/Method: Cross-sectional review from a self-report computerized screening survey IRB approved Sample: N = 5,64 with nonpsychiatric chief complaints, aged 19–60 years	Used screening tool questions from empirically validated instruments (PHQ-9, SF-12, SAOM) Suicidal ideation rate measured Statistical Analysis: Bivariate associations between demographic and functioning and alcohol/substance abuse with suicidal ideation; Chi-square test and two-sample t-test for continuous predictors Logistic regression to determine relative impact of each risk	8% reported suicidal ideation. The most common themes for suicidal thoughts were alone/not married; lower educational attainment; annual income; employment status; physical and mental health functioning; and have received treatment for drug/alcohol in the past 3 months.	II	VI
Joe, S., & Niedermeier, D. (2006). Preventing suicide: A neglected social work research agenda. *British Journal of Social Work, 38*(3), 507–530. doi:10.1093/bjsw/bcl353	Purpose: To identify research-based information published by social work investigators: "Goals of study were to assess state of social work knowledge production and inform preventive and clinical practice with suicidal clients" (p. 2)	Design/Methods: Used broad search phrases (e.g., suicide, suicidal behavior, self-harm) to select research articles for review. Authors manually and electronically reviewed selected journals. Literature published between 1980–2006 and was obtained from computer databases. Only selected articles by social work researchers published in a prominent social work journal. 82 articles met criteria.	Measurement: Narrative synthesis of the results provided by authors. (Note: because of small sample size, authors concluded that a meta-analysis of literature would be limited.)	Social workers tend to publish in non-social work journals. Knowledge obtained from reviewing studies: 1. Found demographic patterns and trends in suicide, especially in males, elderly, and African-Americans (AAs) 2. Suicide risk assessment and management should focus on patients who experience significant social stress. 3. Firearms have become preferred suicide method for AAs and older white women and men. Depressed and suicidal patients should be asked about availability of firearms.	II	V

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Reference	Research/Purpose Questions/Hypothesis	Design/Sample Setting	Variables/Measures Analysis	Findings/Implications	Quality of Evidence	Level of Evidence
Joiner, T. E., Pfaff, J. J., & Acres, J. G. (2002) A brief screening tool for suicidal symptoms in adolescents and young adults in general health settings: Reliability and validity data from the Australian National General Practice Youth Suicide Prevention Project. *Behavior Research and Therapy, 40*(4), 471–481. doi:10.1016/S0005-7967(01)00017-1	Purpose: "A brief screening tool for suicidality (the depressive symptom index suicidality subscale" (p. 471) was evaluated to determine if: (a) The scale's internal consistency and inter-item characteristics are adequate; and (b) The scale's pattern of associations with depressive symptoms, general emotional distress, age, type of presenting complaint, and gender was as expected.	Design/Method: Cross-sectional Sample: N = 2,851 consecutive patients (ages 15–24 years) with a max of N = 20 patients per clinic Setting: Outpatient clinics of N = 247 practitioners in Australian States of Tasmania, Victoria, and Western Australia	Measures: Inter-item characteristics and internal consistency Construct validity Instruments: 1. 4-item self-report Depressive Symptom Inventory - Suicidality Subset (DSI-SS); 2. 12-item self-report General Health Questionnaire (GHQ-12) (a = 0.90); 3. 20 item Center for Epidemiological Studies Depression Scale (CES-D) (a = 0.92) Statistics: Coefficient alpha(α), correlations	The measure is very brief and its application is straightforward, with favorable reliability and validity characteristics.	I	VI
King, C. A., Berona, J., Czyz, E., Horwitz, A. G., & Gipson, P. Y. (2015). Identifying adolescents at highly elevated risk for suicidal behavior in the emergency department. *Journal of Child and Adolescent Psychopharmacology, 25*(2) 100–108. doi:10.1089/cap.2014.0049	Purpose: 1) "To examine adolescents' rate of suicidal behavior during the 2 months following their ED visits and compare it with reported rates for high-risk psychiatric samples" (p. 100) 2) "To identify possible predictors of acute risk for suicidal behavior in this at-risk sample" (p. 100)	Design/Method: Short-term prospective study IRB: Yes Sample: N = 81 adolescents (ages 14–19 years) who screened positive Setting: Pediatric emergency department	Measures: SPSS logistic regression	Limited combinations of suicide risk secondary to the small number of participants No measured effect post-screening on likelihood of suicidal behaviors	II	VI
Kroenke, K., Spitzer, R. L., & Williams, J. B. W. (2001). The PHQ-9: Validity of a brief depression severity measure. *Journal of General Internal Medicine, 16*(9), 606–613. doi:10.1046/j.1525-1497.2001.016009606.x	Purpose: To test the validity of a brief, new measure of depression severity	Design/Method: Not detailed Sample: N = 3000 Setting: Six primary care clinics and 7 gyn/ob clinics	Measures: ROC curve analysis	The PHQ-9 had high sensitivity and specificity when using NHP re-interview scale as the criterion standard.	VI	II

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Reference	Research/Purpose Questions/Hypothesis	Design/Sample Setting	Variables/Measures Analysis	Findings/Implications	Quality of Evidence	Level of Evidence
Kroenke, K., Spitzer, R. L., & Williams, J. B. W. (2003). The Patient Health Questionnaire-2: Validity of a two-item depression screener. *Medical Care, 41*(11), 1284–1292. doi:10.1097/01.mlr.0000093487.78664.3c	Purpose: To evaluate a "2-question version of the PHQ" (p. 606)	Design/Method: Prospective controlled Convenience sample Sample: N = 6000 Setting: 8 Primary Care Centers; 7 gyn/ob clinics	Measures: kappa of (0.62 vs. 0.58), (kappa of 0.48 vs. 0.54) ROC analysis, AUC analysis	Analysis showed the PHQ-2 was similar to the PHQ-9 in diagnosing major depressive disorder, as well as any depressive disorder.	II	II
Kuo, W-H., Gallo, J. J., & Tien, A.Y. (2001). Incidence of suicide ideation and attempts in adults: The 13-year follow-up of a community sample in Baltimore, Maryland. *Psychological Medicine, 31*(7), 1181–1191. doi:10.1017/S0033291701004482	Purpose: "To investigate the incidence and correlates of two important non-fatal suicidal behaviors: suicide attempts and ideation" (p. 1182)	Design/Methods: Prospective Probability sampling of adult households NIHMH designed Diagnostic Interview Schedule (DIS) was administered by trained non-clinician interviewers at multiple time points Sample/Setting: Sample from the NIMH Epidemiology Catchment Area (ECA) study 1981,82,93, '96 N = 1802 first-time suicide attempters, N = 1708 first-time suicidal ideation	Measure/Instrument: SI attempts and ideation were examined, psych diagnoses and sociodemographics, use of health services over time Statistical Analysis: 13 yr annual incidence rate for suicide ideation and attempts was calculated. Comparison of those with and without suicidal ideation and attempt. Bivariate analyses done looking at use of health services and suicidal ideation and attempts. Chi-square and Fisher's exact tests	SI Attempters: Higher incidence for suicide with younger people, lowest socioeconomic status, and never married No statistically significant association between suicide attempts and alcohol/substance abuse 12.1% sought help in a hospital ED and "6.6 times as likely (95% CI) to report having sought treatment from a non-psychiatrist than those without suicide attempt" (p. 1185)	II	IV

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Reference	Research/Purpose Questions/Hypothesis	Design/Sample Setting	Variables/Measures Analysis	Findings/Implications	Quality of Evidence	Level of Evidence
McMillan, D., Gilbody, S., Beresford, E., & Neilly, L. (2007) Can we predict suicide and non-fatal self-harm with the Beck Hopelessness Scale? A meta-analysis. *Psychological Medicine. 37*(6), 769–778 doi:10.1017/s0033291706009664	Purpose: "To determine to what extent the standard cut-off point on the BHS identifies a high-risk group for suicide? Does this standard cut-off point identify a high-risk group for non-fatal self-harm? Is the BHS a useful method of identifying those people who are most at risk for self-harm so that they can be targeted for intensive treatments designed to lower that risk?" (p. 770).	Design: Meta-analysis of cohort design studies of suicide or self-harm Methods: The articles were selected from earliest date available to January 2006 and referred to hopelessness. Sample: Four cohort studies that examined suicide (total N = 2559) and six that examined non-fatal self-harm (N = 1216).	Measures: "For suicide, pooled sensitivity was 0.80 [95% confidence interval (CI) 0.68–0.90], pooled specificity was 0.42 (95% CI 0.41–0.44), and the pooled DOR was 3.39 (95% CI 1.29–8.88). For non-fatal self-harm, pooled sensitivity was 0.78 (95% CI 0.74–0.82), pooled specificity was 0.42 (95% CI 0.38–0.45), and the pooled DOR was 2.27 (95% CI 1.53–3.37)" (p. 769).	People scoring 9 or above on the measure were 11 times more likely to kill themselves than those scoring less than 9, which suggests that the standard cut-off point on the BHS does identify a group that is at increased risk of future suicidal behavior. The lethality of the behavior is not assessed, identifying a large group.	I	I
Murphy, E., Kapur, N., Webb, R., & Cooper, J. (2011). Risk assessment following self-harm: Comparison of mental health nurses and psychiatrists. *Journal of Advanced Nursing, 67*(1), 127–139. doi:10.1111/j.1365-2648.2010.05484.x	Purpose: "To compare risk assessments by psychiatrists and mental health nurses following an episode of self-harm" (p. 127)	Design/Methods: Prospective cohort All consecutive episodes of self-harm by persons age 16 and older between 2002 and 2006 were entered into the Manchester Self-Harm Project (MaSH). Patients were assessed by either specially trained nurse or 'junior" psychiatrist. Sample: N = 3491 (nurses N = 2626 (75%), psychiatrists N = 865 (25%)) Setting: Three hospitals in England.	1. "Positive predictive value of risk assessments measured by repeat occurrence within 12-month period" (p. 127) 2. Twelve factors that informed risk assessment were identified a priori 3. Immediate clinical management of high risk patients Statistics: Sensitivity, specificity, PPV, univariate associations, regressions	1. Repeat self-harm rates were 15.3% for nurses (N = 320) and 14.8% for psychiatrists (N = 93). Nurses identified patients as high risk at a higher rate (11%) compared with the psychiatrists (8%), p = 0.02. However, this did not result in a statistically significant sensitivity difference between assessors. 2. Nearly all factors had statistically significant associations by both assessors (0.05), with the strongest sociodemographics predictor being homeless or registered as sick/disabled. Conclusion: Positive predictive value is similar between nurses and psychiatrists.	I	IV

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Reference	Research/Purpose Questions/Hypothesis	Design/Sample Setting	Variables/Measures Analysis	Findings/Implications	Quality of Evidence	Level of Evidence
National Collaborating Centre for Mental Health. (2004). Self-harm: *The short-term physical and psychological management and secondary prevention of self-harm in primary and secondary care* (1st ed.). Leicester, UK: British Psychological Society and RCPsych Publications.	Purpose: "To make recommendations for the physical, psychological, and social assessment and treatment of people in primary and secondary care in the first 48 hours after having self-harmed"	Design/Methods: Expert Consensus Panel "The guideline is relevant to all people aged 8 years of age and older who have self-harmed. Where it refers to children and young people, this applies to all people who are between 8 and 16 years of age inclusive	Measures: These are consensus guidelines in which analysis and measures are not discussed.	Section 1.4 addresses ED specific recommendations Section 1.9 addresses pediatric care Section 1.10 addresses geriatric care	I	VII
Nock, M. K., Park, J. M., Finn, C. T., Deliberto, T. L., Dour, H. J., & Banaji, M. R. (2010) Measuring the suicidal mind: Implicit cognition predicts suicidal behavior. *Psychological Science, 2*1(4), 511–517. doi:10.1177/0956797610364762	Purpose: 1. Determine if individuals who want to kill themselves have stronger implicit cognition association of self with death/suicide 2. Would this strong association predict suicide attempts?	Design/Methods: Descriptive, case controlled Sample: N = 157 English-speaking adult patients who are neither cognitively impaired nor agitated/ violent Setting: Emergency department of a large metropolitan hospital	Measures: Death/suicide implicit association; demographic and psychiatric factors; history of suicidal behaviors; clinician and patient predictors Six month follow up assessment. Instrument: Implicit Association Test (IAT), a computer-administered test, and the Self-Injurious Thoughts and Behaviors Interview (SITBI), a structured interview Statistics: t-tests and Wald test	Patients who presented to the ED after suicide attempt had "significantly stronger implicit association with death/suicide and self than" (p. 4) those who presented with other psychiatric symptoms. The IAT was better predictor of suicide attempt than current depressive mood and prior suicide attempts. Clinician factors did not significantly predict future suicide attempts. Fourteen participants attempted suicide during follow up. The IAT predicted future suicide significantly better than clinical predictors ($p < 0.05$). IAT association with death/suicide was associated with a six-fold increase in the odds for making a suicide attempt in the next six months.	I	V

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Reference	Research/Purpose Questions/Hypothesis	Design/Sample Setting	Variables/Measures Analysis	Findings/Implications	Quality of Evidence	Level of Evidence
Oude Voshaar, R. C., Cooper, J., Murphy, E., Steeg, S., Kapur, N., & Purandare, N. B. (2011). First episode of self-harm in older age: A report from the 10-year prospective Manchester Self-Harm project. *Journal of Clinical Psychiatry, 72*(6), 737–743. doi:10.4088/JCP.10m06501	Purpose: To examine clinical characteristics and risk of repeat self-harm in later life after first attempt, comparing older-aged patients with middle-aged patients after first-ever self-harm episode	Design/Method: Prospective cohort study using data obtained in Manchester Self-Harm (MaSH) project from September 1, 1997 to August 31, 2007. (The MaSH project has approval under UK National Health Service Act to protect identifiable patient information.) Sample: N = 2311 patients 35 years of age or older with "a first-ever episode of self-harm" (p. 737) Setting: All patients presented to an emergency department in the city of Manchester, UK, with a history of self-harm.	Measures: Index episode defined Repeat self-harm identified was from re-presentation to an ED in Manchester. Fatal repetition of self-harm (suicide) was obtained from MaSH data and data from Office of National Statistics.	Late-onset group differed from middle-aged patients in terms of higher suicidal intent and hopelessness, and different profile of participants. Middle-aged and older people presenting with "first-ever episode of self-harm" (p. 737) use similar methods, but data suggest that older people have higher suicidal intent at time of self-harm. Older patients considered physical health problems significantly more often as main precipitant for their act.	I	VI
Posner, K., Brown, G. K., Stanley, B., Brent, D. A., Yershova, K. V. Oquendo, M. A., . . . Mann, J. J. (2011). The Columbia-Suicide Severity Rating Scale: Initial validity and internal consistency findings from three multisite studies with adolescents and adults. *The American Journal of Psychiatry, 168*(12), 1266–1277. doi:10.1176/appi.ajp.2011.10111704	Purpose: "To review the psychometric properties of the Columbia-Suicide Severity Rating Scale (C-SSRS), which can quantify how severe suicidal ideations are" (p. 1266).	Design/Method: A treatment study of adolescent suicide attempters Sample: 1. N = 124 in study of treatment for adolescent suicide attempters 2. N = 312 in study of medication effectiveness for depressed adolescents 3. N = 237 adults with existing psychiatric problems that presented to the ED (p. 1266)	Measurements: Studies 1 and 2: SAS version 1.9, mixed-effects linear regression Study 3: SPSS version 19	The C-SSRS demonstrated high sensitivity and specificity to identify suicidal behavior when compared with other scales.	I	II

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Reference	Research/Purpose Questions/Hypothesis	Design/Sample Setting	Variables/Measures Analysis	Findings/Implications	Quality of Evidence	Level of Evidence
Randall, J. R., Colman, I., & Rowe, B. H. (2011). A systematic review of psychometric assessment of self-harm risk in the emergency department. *Journal of Affective Disorders, 134*(1–3), 348–355. doi:10.1016/j.jad.2011.05.032	Purpose: To evaluate evidence for usefulness of self-harm risk-assessment tools during clinical assessment for predicting future self-harm or hospitalization	Design/Method: Systematic review: Abstracts reviewed by two researchers Inclusion criteria: Prospective trials focused on groups either clinically or actuarially assessed in the ED as at risk for self-harm Sample: Initial search yielded N = 556 relevant abstracts of which N = 12 met inclusion criteria	Measures: 1. Recurrence of self-harm or suicidal ideation 2. Sensitivity or specificity of prediction for admission Instrument: Study bias was assessed using Quality Assessment of Diagnostic Accuracy Studies (QUADAS) Statistics: Descriptive statistics including means and interquartile ranges Because of heterogeneity in assessment tools, psychometric properties were not measured.	Two studies had QUADAS scores of 9; all others were greater than 10. Overall, there is no strong evidence for self-harm in the future. 1. The studies failed to validate either tool as an effective screening tool during clinical evaluation. 2. Prediction for admission failed to identify patients likely to be admitted.	I	V
Richardson, L. P., Rockhill, C., Russo, J. E., Grossman, D. C., Richards, J., McCarty, C., . . . Katon, W. (2010). Evaluation of the PHQ-2 as a brief screen for detecting major depression among adolescents. *Pediatrics, 125*(5), e1097–e1103. doi:10.1542/peds.2009-2712	Purpose: "To examine the validity among adolescents of the Patient Health Questionnaire 2 (PHQ-2), a 2-item depression-screening scale" (e1097)	Design/Methods: Survey Sample: N = 444 youth (13 to 17) Setting: Primary care setting	Measures: Descriptive statistics were completed for the full sample and stratified according to depression status.	Looking at each of the questions in the scale individually in terms of sensitivity and specificity compared with the two questions combined, the individual questions did not score better than the combined questions. One-fifth of those who responded to the PHQ-9 and showed suicidal ideation would have been missed in the PHQ-2.	III	II
Royal College of Psychiatrists. (2010). *Self-harm, suicide and risk: Helping people who self-harm. Final report of a working group* (College report CR158). London, UK: Author. Retrieved from http://www.rcpsych.ac.uk/files/pdfversion/CR158xx.pdf	Purpose: To look at the role of mental health professionals with patients who harm and/or kill themselves. Also to look into why people attempt and/or succeed in harming themselves.	Design/Methods: Clinical guidelines	Measures: There are no measures to discuss because these are guidelines, not research.	Liaison psychiatrists should be available to "hospital wards at all times, and they should be there to provide training and support for colleagues dealing with self-harm. Locally developed risk assessment tools should be abandoned. All risk assessment tools should be evidence-based and widely validated. Where risk assessment tools are used, they should be seen as part of routine biopsychosocial assessment and not as a separate exercise. Psychiatrists assessing people who have harmed themselves should undertake a comprehensive psychiatric history and mental state examination together with an assessment of risk" (p.86)	I	VII

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Reference	Research/Purpose Questions/Hypothesis	Design/Sample Setting	Variables/Measures Analysis	Findings/Implications	Quality of Evidence	Level of Evidence
Rutledge, D. N., Wickman, M. E., Cacciata, M., Winokur, E. J., Loucks, J., & Drake, D. (2013). Hospital staff nurse perceptions of competency to care for patients with psychiatric or behavioral health concerns. *Journal for Nurses in Professional Development, 29*(5), 255–262. doi:10.1097/01.NND.0000433150.18384.1c	Purpose: "To describe hospital staff nurses' perceptions of their behavioral healthcare competencies" (p. 256)	Design/Method: Convenience sample competency survey, designed to measure hospital nurse perceptions of behavioral healthcare competency via SurveyMonkey Sample: N = 844 Setting: Three community health catholic hospitals	Measures/Instruments: Descriptive statistics; one-way analysis of variances; post hoc Tukey's test	The emergency department nurse rated themselves higher for each subscale than nurses in other specialties.	II	VII
Schumacher, J. A., Gleason, S. H., Holloman, G. H., & McLeod, W. T., (2010). Using a single-item rating scale as a psychiatric behavioral management triage tool in the emergency department. *Journal of Emergency Nursing, 36*(5), 434–438. doi:10.1016/j.jen.2010.01.013	Purpose: Evaluate the adoption of "the Behavioral Activity Rating Scale (BARS) as part of behavioral management triage strategy for psychiatric patients in the emergency department" (p. 435)	Design: Retrospective chart review Sample: N = 284 convenience sample aged 18–64 with psychiatric complaints Setting: Inner city adult emergency department	Measures: 1. Percentage compliance of BARS scoring 2. Presence of BARS score as predictor of patient disposition Statistics: 1. "Chi-square and t-tests to examine nursing shift and patient characteristics as a predictor of compliance with BARS score charting" (p. 436) 2. Binary logistic regression analysis	1. Patients presenting at triage between the hours of 2300 and 0700 were less likely to receive a BARS score at triage. 2. BARS score was not associated with admission.	II	VI

CLINICAL PRACTICE GUIDELINE:
Suicide Risk Assessment
Appendix 1: Evidence Table

Reference	Research/Purpose Questions/Hypothesis	Design/Sample Setting	Variables/Measures Analysis	Findings/Implications	Quality of Evidence	Level of Evidence
Sinclair, L., Hunter, R., Hagen, S., Nelson, D., & Hunt, J. (2006). How effective are mental health nurses in A&E departments? *Emergency Medicine Journal, 23*(9), 687–692. doi:10.1136/emj.2005.033175	Purpose: To evaluate the accuracy and diagnosis made by psychiatric nurses working in the emergency department	Design/Methods: Quasi-experimental Cross over Methods: Pre- and 3-month post intervention survey Dedicated trained psychiatric nurses worked in two different EDs for a 3-month period Sample: N = 4 nurses Setting: Two UK emergency departments	Measures: 1. Standard assessments randomized for quality 2. Number of patients assessed 3. Psychiatric nurse time on task 4. Wait times 5. Referrals 6. Repeat visits 7. Patient satisfaction 8. Staff evaluation Statistics: ANOVA, Chi-square	Conclusion: Experienced psychiatric nurses can provide appropriate clinical assessments in the ED.	I	III
Stanley, I. H, Horowitz, L. M., Bridge, J. A., Wharff, E. A., Pao, M., & Teach, S. J. (2015). Bullying and suicide risk among pediatric emergency department patients. Pediatric *Emergency Care, 32*(6), 347–351. doi:10.1097/pec.0000000000000537	Purpose: To see if there is any link between bullying and risk of suicide in pediatric patients.	Design/Methods: Convenience sample survey IRB: Yes Sample: N = 524 Setting: 3 pediatric emergency departments	Measures: Stata version 11.0; descriptive demographic; Chi-square and Student's t-test; multiple logistic regression statistics	The correlation between recent bullying victimization and increased suicide risk was established with "adjusted odds ratio, 3.19; 95% CI, 1.66–6.11" (p. 1).	I	VI
Steeg, S., Kapur, N., Webb, R., Applegate, E., Stewart, S. L. K., Hawton, K., . . . Cooper, J. (2012). The development of a population-level clinical screening tool for self-harm repetition and suicide: The ReACT Self-Harm Rule. *Psychological Medicine, 42*(11), 2383–2394. doi:10.1017/S0033291712000347	Purpose: "To develop a simple three-to-five-element tool with high sensitivity (at least 95%) for predicting repetition of self-harm within 6 months, while identifying the maximum number of subsequent suicides" (p. 2)	Design/Methods: Prospective Variables: Patients who presented to one of five ED with episode of self-harm including repeat visits between 2003 and 2007 Outcomes were measured until the end of 2007 to allow for 6 month follow up. Sample: N = 29,571 episodes by N = 18,680 individuals between 16 and 97 years Setting: 5 Centers in England	Measures: Method of self-harm, repeated self-harm episodes within 6 months, rate of completed suicide, precipitants to self-harm Statistics: Risk ratio, CI, multivariate modeling	1. Overall assessment rate 68.3% 2. "Self-harm involving cutting (59.7%) was significantly less likely ($p < 0.001$) to receive assessment than self-poisonings (71.1%) and other methods (69.2%)" (p. 5). 3. Those that were not assessed were significantly more likely ($p < 0.001$) to repeat self-harm behaviors than those who were assessed (30.5% vs. 26%). 4. There was no difference in incomplete suicide rates, however. Conclusion: The identification of one of the four risk factors can "correctly predicts at least nine out of 10 episodes where repeat self-harm or suicide will occur within 6 months" (p. 8)	I	IV

CLINICAL PRACTICE GUIDELINE:
Suicide Risk Assessment
Appendix 1: Evidence Table

Reference	Research/Purpose Questions/Hypothesis	Design/Sample Setting	Variables/Measures Analysis	Findings/Implications	Quality of Evidence	Level of Evidence
Ting, S. A., Sullivan, A. F., Miller, I., Espinola, J. A., Allen, M. H., Camargo, C. A., & Boudreaux, E. D. (2012). Multicenter study of predictors of suicide screening in emergency departments. Academic *Emergency Medicine, 19*(2), 239–243. doi:10.1111/j.1553-2712.2011.01272.x	Purpose: Provide estimates and predictor for suicide screening in the ED	Design/Methods: Retrospective chart review of 100 randomized charts in 8 different institutions IRB approval in each facility Sample: N = 800 adults	Measures: Screening measured by documentation of suicide ideation or attempts currently or in the past. Also measured documentation of a safety plan.	Significant predictors of suicide screening include psychiatric complaints, self-harm, alcohol and drug use (p = 0.001), history of ED visit in past 6 months (p = 0.002), substance abuse (p = 0.005), and inpatient hospitalization for psychiatric problems in past 6 months (p < 0.001).	I	IV
Warner, C. H., Appenzeller, G. N., Grieger, T., Belenkiy, S., Breitbach, J., Parker, J., . . . Hoge, C. (2011). Importance of anonymity to encourage honest reporting in mental health screening after combat deployment. *Archives of General Psychiatry, 68*(10), 1065–1071. doi:10.1001/archgenpsychiatry.2011.112	Purpose: To see if an anonymous screening option will make soldiers more willing to "report mental health issues after deployment" (p. 1065)	Design/Methods: Descriptive methods Routine Post-Deployment Health Assessment (PDHA) and anonymous survey that included questions from the Patient Health Questionnaire (PHQ) and the Primary Care PTSD screen (PC-PTSD) Sample: N = 3502, control N = 1712, experimental Setting: Ft Stewart, Georgia	Measures: 1. Comparison of routine PHDA and anonymous results for prevalence of positive screen for: a.) PTSD. b.) depression c.) willingness to seek care d.) suicidal ideation. Secondary analysis conducted on anonymous survey to assess for: a.) potential concerns of confidentiality b.) barriers to seeking care. Instruments: PC-PTSD, PHQ-2, suicidal ideation question from PHQ-9, and the PHDA Statistics: Descriptive statistic performed using SPSS version 12.02 (SPSS Inc., Chicago, IL)	Conclusion: Soldiers were significantly less willing to report mental health problems in routine non-anonymous PDHA compared to anonymous screening.	I	VI

CLINICAL PRACTICE GUIDELINE:
Suicide Risk Assessment
Appendix 1: Evidence Table

Reference	Research/Purpose Questions/Hypothesis	Design/Sample Setting	Variables/Measures Analysis	Findings/Implications	Quality of Evidence	Level of Evidence
Zhang, J., McKeown, R. E., Hussey, J. R., Thompson, S. J., & Woods, J. R. (2005). Gender differences in risk factors for attempted suicide among young adults: Findings from the third National Health and Nutrition Examination Survey. *Annals of Epidemiology, 15*(2), 167–174. doi:10.1016/j.annepidem.2004.07.095	Purpose: To look at significant issues in people's lives to determine if they affect suicide attempts in both male & females. Also, to see if these issues affect one gender more.	Design/Methods: Cross-sectional survey, interviews and direct physical examinations Sampling: stratified, multistage probability design Sample/Setting: 4004 women, 3357 men from Third National Health and Nutritional Examination Survey, 17 to 39 years old	Measures/Instruments: NHANES III subsections to measure attempted suicide; SES, and social support indicators; health risk factors; and lifetime history of medical and psychiatric illness via survey and interviews Statistical Analysis: SUDAAN 7.5; odds ratio (OR) calculated with 95% CI; Wald Test	Significant differences noted between men and women based on risk factors, $p < 0.05$; 95% CI; (+) "significant gender difference in risk factors for suicide attempt in young adults" (p. 167). Risk factors for men include "low income and smoking associated with attempted suicide" (p. 168). For women, low education attainment, smoking, drug use, and poor self-evaluated health status were associated with attempted suicide.	II	VI

LIST OF ACRONYMS USED IN TABLE:

CI – Confidence Interval	PTSD – Post-traumatic Stress Disorder
ED – Emergency Department	RCT – Random Controlled Trials
IRB – Institutional Review Board	US – United States

Grading the Quality of the Evidence

I. Acceptable Quality: No concerns
II. Limitations in Quality: Minor flaws or inconsistencies in the evidence
III. Major Limitations in Quality: Many flaws and inconsistencies in the evidence
IV. Not Acceptable: Major flaws in the evidence

Grading the Levels of the Evidence (Melnyk & Fineout-Overholt, 2014)

I. Evidence from a systematic review or meta-analysis of all relevant randomized controlled trials or evidence-based clinical practice guidelines based on systematic reviews of RCTs
II. Evidence obtained from at least one properly designed randomized controlled trial
III. Evidence obtained from well-designed controlled trials without randomization
IV. Evidence obtained from well-designed case control and cohort studies
V. Evidence from systematic reviews of descriptive and qualitative studies
VI. Evidence from a single descriptive or qualitative study
VII. Evidence from opinion of authorities and/or reports of expert committees

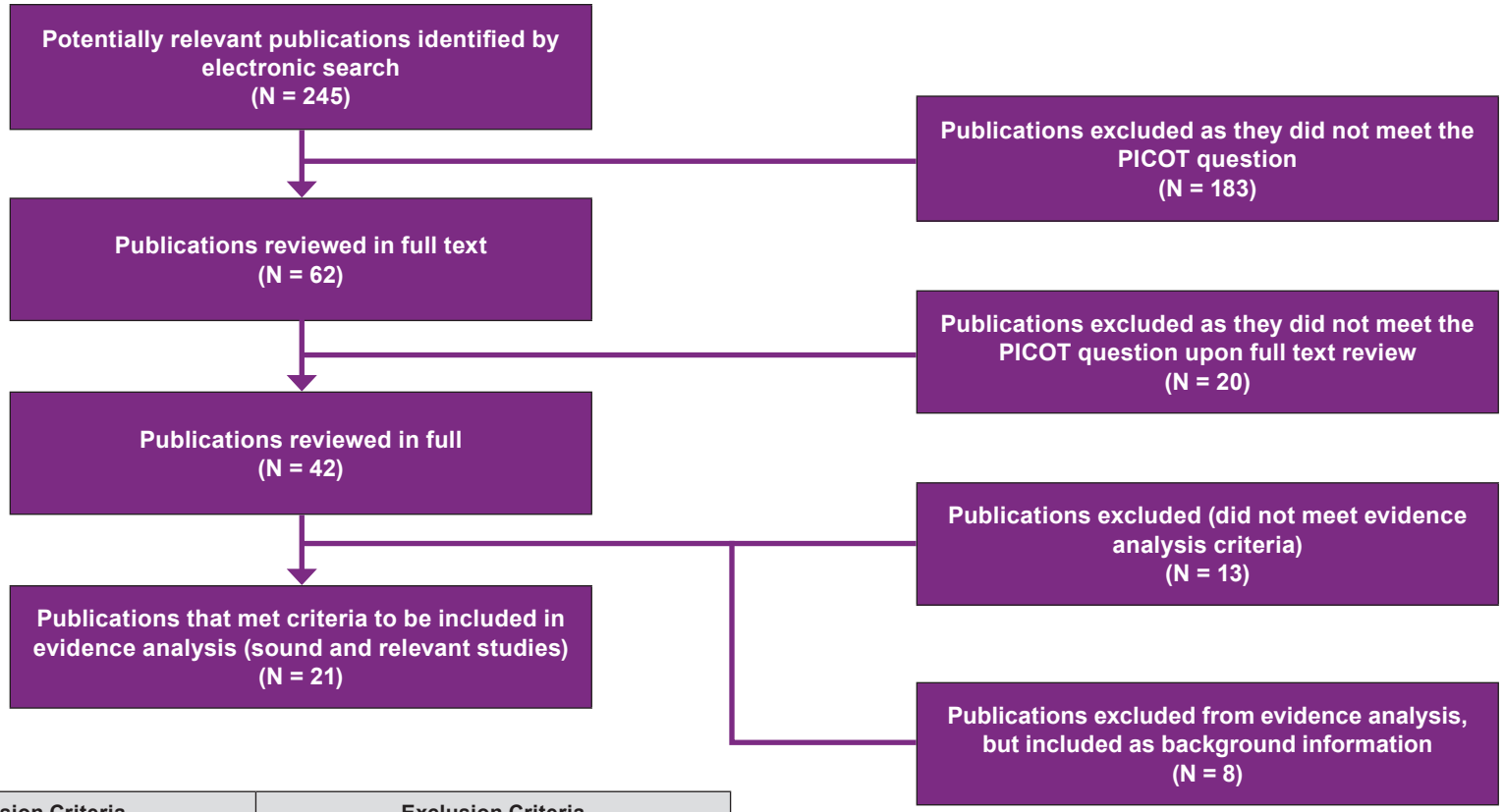
CLINICAL PRACTICE GUIDELINE:
Prevention of Blood Culture Contamination
Appendix 2: Other Resources Table

Reference	Research Purpose	Conclusions
Allen, M. H., Abar, B. W., McCormick, M., Barnes, D. H., Haukoos, J., Garmel, G. M., Boudreaux, E. D. (2013). Screening for suicidal ideation and attempts among emergency department medical patients: Instrument and results from the Psychiatric Emergency Research Collaboration. *Suicide and Life-Threatening Behavior*, 43(3), 313–323. doi:10.1111/sltb.12018	The purpose of this study was to "1) investigate a standardized approach to screening ED patients for suicidal ideation and attempts, 2) determine the prevalence and relationships among various forms of ideation and behavior" (p. 315)	A history of previous attempt of self harm correlated to current thoughts of suicide [$\chi 2$ (1) = 75.59, $p < 0.001$] (p. 318). Single question queries concerning history of depression may be limited to capturing only 84% of depression, and history of depression may only capture 84%
Giddens, J. M., Sheehan, K. H., & Sheehan, D. V. (2014) The Columbia-Suicide Severity Rating Scale (C-SSRS): Has the "gold standard" become a liability? *Innovations in Clinical Neuroscience,* 11(9–10), 66–80. Retrieved from http://innovationscns.com/the-columbia-suicide-severity-rating-scale-c-ssrs-has-the-gold-standard-become-a-liability	To determine whether the Columbia-Suicide Severity Rating Scale should continue to be used as the gold standard or if there is another scale that is more effective in screening for suicide.	N/A
Granello, D. H. (2010). The process of suicide risk assessment: Twelve core principles. *Journal of Counseling & Development,* 88(3), 363–370. doi:10.1002/j.1556-6678.2010.tb00034.x	Review article	Discusses the 12 principles that suicide risk assessments should be based on. Clinical assessment must be used with tests and screening questions used as adjuncts. False positives are quite common in wide-scale screening efforts and a more in-depth assessment needs to be performed on positive screens. False negatives are also possible and very dangerous. They must be taken seriously
Gray, B. P., Dihigo, S. K. (2015). Suicide risk assessment in high-risk adolescents. *The Nurse Practitioner,* 40(9), 30–37. doi:10.1097/01.npr.0000470353.93213.61	Review article	Discusses mental health screening, screening tools used on adolescents, risk factors, management. The paper briefly discusses multiple screening tools that could be used for screening adolescents for suicide. These screening tools include Patient Health Questionnaire for Adolescents (PHQ-A), Patient Health Questionnaire (PHQ), Center for Epidemiological Studies Depression Scale for Children (CES-DC), HEEADSSS, Columbia Suicide Severity Scale (C-SSRS), Suicide Behaviors Questionnaire (SBQ-R), Suicidal Ideation Questionnaire (SIQ).
Knesper, D. J. (2010). *Continuity of care for suicide prevention and research 2011.* (2010). Retrieved from the Suicide Prevention Resource Center website: http://www.sprc.org/sites/default/files/migrate/library/continuityofcare.pdf	National Strategy for Suicide Prevention that incorporates emergency departments; bases recommendations on meeting Goal 7 of National Strategy for Suicide Prevention	EDs responsible for identification and referral of at-risk patients. There are limited effective screening tools for EDs due to design, potential cost for use. Describes screening process, provides a 1-page synopsis with risk factors, signs/symptoms.
Matarazzo, B. B., Clemans, T. A., Silverman, M. M., & Brenner, L. A. (2012). The self-directed violence classification system and the Columbia Classification Algorithm for Suicide Assessment: A crosswalk. S*uicide and Life threatening Behavior*, 43(3), 235–249. doi:10.1111/j.1943-278x.2012.00131.x	To implement and evaluate the care zoning model in an eight-bed psychiatric intensive care unit and, specifically, to examine the model's ability to improve the documentation and communication of clinical risk assessment and management	It was found that having a common classification system will be extremely beneficial as it will be more efficient and clear as to what providers are speaking about. This will also help researchers better identify issues regarding suicide screening.
Mitchell, A. M., Garand, L., Dean, D., Panzak, G., Taylor, M. V. (2005). Suicide assessment in hospital emergency departments: Implications for patient satisfaction and compliance. *Topics in Emergency Medicine*, 27(4), 302–312. Retrieved from the NCBI website: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2864482	Case Study	Resources for good overview

CLINICAL PRACTICE GUIDELINE:
Suicide Risk Assessment
Appendix 2: Other Resources Table

Reference	Research Purpose	Conclusions
New Zealand Guidelines Group. (2011). *Emergency department self-harm presentations: Clinical audit tool.* Retrieved from the New Zealand Ministry of Health website: http://www.moh.govt.nz/notebook/nbbooks.nsf/0/61A269A605B1FE36CC257A-4F000EAF72/$file/NZGG-emergency-department-self-harm-presentations.pdf.	Audit Tool	Useful audit tool for ongoing process improvement projects
Russinoff, I., & Clark, M. (2004). Suicidal patients: Assessing and managing patients presenting with suicidal attempts or ideation. *Emergency Medicine Practice*, 6(8). Retrieved from http://www.ebmedicine.net/topics.php?paction=dLoadTopic&topic_id=97	Review	Useful reference list
Shore, J. H. (2013). Telepsychiatry: Videoconferencing in the delivery of psychiatric care. *The American Journal of Psychiatry*, 170(3) 256–262. doi:10.1176/appi.ajp.2012.12081064	Review article	A growing body of scientific evidence coupled with burgeoning implementation is demonstrating telepsychiatry's ability to bring care closer to patients and to increase the range and quality of available mental health services
White, A. (2010). An evidenced-based clinical guideline for the initial management of behavioral emergencies. *Journal of Emergency Nursing*, 36(5), 450–454. doi:10.1016/j.jen.2008.12.012	Review article	Develop clinical algorithm for management of behavioral health emergencies
Yeager, K. R., Saveanu, R., Roberts, A. R., Reissland, G., Mertz, D., Cirpili, A., & Makovich, R. (2005). Measured response to identified suicide risk and violence: What you need to know about psychiatric patient safety. *Brief Treatment and Crisis Intervention,* 5(2), 121–141. doi:10.1093/brief-treatment/mhi014	Review	Presents strategies for suicide risk assessment, potential for violence, physical environment assessment, and safety plan.

CLINICAL PRACTICE GUIDELINE:
Suicide Risk Assessment
Appendix 3: Study Selection Flowchart and Inclusion/Exclusion Criteria



Inclusion Criteria	Exclusion Criteria
Studies published in English	Studies not published in English
Studies involving human subjects	Non-human studies
October 2011- October 2015	Studies not in the timeframe listed
Studies addressing the PICOT question	Studies not addressing the PICOT questions

The following databases were searched: PubMed, Google Scholar, CINAHL, Cochrane-British Medical Journal, Agency for Healthcare Research and Quality (AHRQ; www.ahrq.gov), and the National Guideline Clearinghouse (www.guidelines.gov).

Search terms included: "initial psychiatric emergencies," "behavioral health emergency," "depression screening," and "mental health emergency." Additional search terms were "assessment" and "management," with the filters "and" and "or" added. Finally, the topics searched included "suicide," "suicidal ideation," "suicide assessment," "suicide scales and/or tools," and "suicide predictors." Initial searches were limited to English language articles from 2000–2012