Bridging the Gap: Drug and Alcohol Screening in Adolescent Trauma Patients

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Contribution to Emergency Nursing Practice:

- Alcohol and substance use is a significant factor in adolescent trauma. By identifying patients at-risk for substance-use disorders, providers can provide early interventions to support this vulnerable population.
- The American College of Surgeons Committee on Trauma (ACS-COT) requires Level I and II trauma centers to screen high-risk users to maintain center accreditation. Several screening tools have been investigated, including both biochemical testing and questionnaires, but it remains unclear which modality most effectively identifies at-risk adolescent trauma patients.
- Providers in emergency departments and trauma centers are well positioned to screen for high-risk behaviors such as alcohol and substance use, as studies on screening and early interventions in the adolescent trauma population have demonstrated reduction in recurrent injury and readmission rates.
- Although no screen identifies all at-risk adolescents, evidence supports implementation of an evidence-based, developmentally appropriate universal screening protocol consisting of biochemical screening in conjunction with self-report.

Introduction

The American College of Surgeons' Committee on Trauma (ACS-COT) requires that accredited Level I and Level II trauma centers have a mechanism in place for Screening, Brief Interventions and Referral to Treatment (SBIRT) for alcohol and substance use.[1] SBIRT emphasizes early detection and intervention for persons at risk for developing substance abuse[2] as well as supporting patients with existing issues to lower their risks for alcohol-related problems.[1,2] SBIRT was endorsed by the American Academy of Pediatrics in 2011 as an evidence-based strategy to identify problematic substance use and to reduce or prevent substance abuse and dependence among adolescents.[3] This article describes the elements of a SBIRT program, evidence supporting the need to implement an adolescent trauma SBIRT program in the emergency department, and barriers to—and limitations of—an adolescent SBIRT program.

SBIRT is a 3-step process consisting of[1] screening patient's drinking practice and risk of drug and/or illicit drug use,[2] conducting a brief intervention to either reduce or eliminate risk, and providing follow-up or referral to specific treatment when appropriate.[1,4]

Trauma centers are mandated to select 1 (or more) evidence-based screening instruments, identify who will administer the screening method, and decide when and where patients will be screened.[1,5] The use of a validated screening tool is critical to determine experience of substance use accurately and ensure that an appropriate intervention is delivered[1] (Table 1). Components of brief interventions traditionally include giving information/feedback, understanding the patient's views of drinking, enhancing motivation, and offering advice and negotiation.[1,4,5]

Emergency providers have a responsibility to address substance-use behaviors in the adolescent population.[6] Emergency and trauma clinicians are uniquely positioned to screen for high-risk behaviors such as alcohol and substance use.[6] In 2010, there were approximately 189,000 ED visits by people younger than age 21 for injuries and other conditions linked to alcohol.[7] In 2014, more than 1.6 million people between the ages of 12 and 20 reported driving under the influence of alcohol in the past year.[8,9] Attempts to characterize the adolescent trauma population and define variables to hone screening have revealed that patient age is a consistent predictor of a positive screen, with the rate of positive screening increasing exponentially as adolescents approach adulthood.[10–13] Variables such as gender, race, revised trauma score, injury severity score, mechanism of injury, presence of violent mechanism, and mental status at presentation had no correlation between a

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TABLE 1
Screening tools validated for use in adolescents.

Tool	Indications
S2B1	• Screens for frequency • Screens for tobacco, alcohol, marijuana, and other illicit drugs • Discriminates between no use, no substance use disorder (SUD), moderate SUD, and severe SUD, based on DSM-5 diagnoses.
NIAA Youth Alcohol Screen	• Recommended for children starting at age 9 • Two-question screen • Screens for friends' use and own use
BSTAD	Brief Screener for tobacco, alcohol, and other drugs • Identifies problematic tobacco, alcohol, and marijuana use in pediatric settings. • Can be self- or interview-administered
CRAFFT	Car, Relax, Alone, Friends/Family, Forget, Trouble • The CRAFFT is a good tool for quickly identifying problems associated with substance use.
GAINNS	Global Appraisal of Individual Needs • Assesses for both substance use disorders and mental health disorders • Alcohol Use Disorders Identification Test • Assesses risky drinking
AUDIT	Alcohol Use Disorders Identification Test • Assesses risky drinking • Not a diagnostic tool

Adapted from Massachusetts Department of Public Health, Bureau of Substance Abuse Services. Adolescent SBIRT toolkit for providers. Boston, MA: Massachusetts Department of Public Health, 2015. https://www.mcpap.com/pdf/SBIRTWorkbook_A.pdf.

positive and negative screen.[10–13] Therefore, guidelines from the ACS-COT and Pediatric Trauma Society recommend universal screening for alcohol misuse in patients age 12 and older because of the high prevalence of misuse and a lack of a distinct at-risk patient profile.[1,10]

Alcohol, tobacco, and marijuana are the substances most often used by adolescents in the United States.[3,14] The Monitoring the Future Survey (2017) reported that 23% of students have tried alcohol by 8th grade and 61% have tried alcohol by 12th grade.[15] Equally alarming prevalence of binge drinking has been reported in 4% of 8th graders and 17% of 12th graders.[15] Despite legal barriers, 1 out of every 5 adolescents aged 12 to 20 consumed alcohol in the past month, with 90% of this alcohol consumed as binge drinks.[16]

Adolescence, which extends from 12 years of age into the early 20s,[3] is a period notable for expanding autonomy, exploration, and discovery as children transition to young adulthood. Experimentation with alcohol and drugs during this critical period poses integral problems for adolescents, their community, and public health in the United States.[3,14] Alcohol and other drug use typically begins during adolescence and peaks during the early 20s.[3,14,15,17] Data have shown that alcohol and substance misuse are significant risk factors for trauma in adolescents and one of the most prevalent causes of adolescent morbidity and mortality in the United States.[15,16,18–20] Also, high rates of alcohol and drug use in adolescents coincide with timing of intensive neurodevelopmental remodeling and maturation, conferring greater developmental vulnerability at a time when risk-taking behaviors are more prevalent.[3,10,21,22] Long-term learning deficits and serious health effects can occur when adolescents engage in high-risk drinking.[23-25]

Despite the prevalence of alcohol-related risk and problems for the adolescent population and the ACS-COT mandate, implementation of SBIRT programs for adolescents in acute-care facilities vary across trauma and acute-care programs.[5,6,13,26–33] Studies have focused on the potential advantage of using trauma as an opportunity for screening and intervention in youth, but few have attempted to demonstrate to what extent this screening is taking place at trauma verified centers.[5,6,26–33] Previous SBIRT studies conducted in the adolescent trauma population suggest the persistence of selective screening even when universal screening was