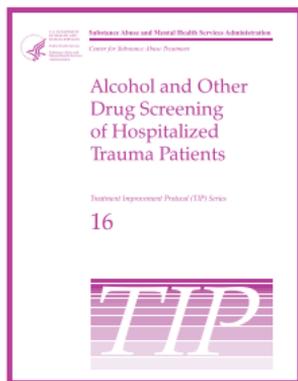


Quick Guide

For Clinicians

Based on TIP 16

Alcohol and Other Drug Screening of Hospitalized Trauma Patients



U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Substance Abuse and Mental Health Services Administration
Center for Substance Abuse Treatment
www.samhsa.gov

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*Alcohol and Other Drug
Screening of Hospitalized
Trauma Patients*

This Quick Guide is based entirely on information contained in TIP 16, published in 1995. No additional research has been conducted to update this topic since publication of the original TIP.

WHY A QUICK GUIDE?

The purpose of a *Quick Guide* is to provide busy clinicians with succinct, easily accessible information.

This *Quick Guide* is based on *Alcohol and Other Drug Screening of Hospitalized Trauma Patients*, number 16 in the Treatment Improvement Protocol (TIP) Series, published by the Center for Substance Abuse Treatment (CSAT), Substance Abuse and Mental Health Services Administration. It discusses the opportunity to assess, screen, and treat hospitalized trauma patients for alcohol and drug use and abuse, which often are the underlying causes of trauma.

The *Quick Guide* is divided into sections to help readers quickly locate relevant material. For in-depth information on the topics in this *Quick Guide*, readers should refer to TIP 16.

WHAT IS A TIP?

The TIP Series was launched in 1991. The goal of these publications is to disseminate consensus-based, field-tested guidelines on current topics to substance abuse treatment providers.

TIP 16, Alcohol and Other Drug Screening of Hospitalized Trauma Patients

- Describes the disease model of injury and its relationship to the use of alcohol and drugs
- Presents alcohol- and drug-screening and assessment information
- Discusses the opportunity for treating underlying drug and alcohol problems in hospitalized trauma patients (the “teachable moment”)
- Makes the case for universal screening.

To order a copy of TIP 16 and related products, see the inside back cover of this Quick Guide.

INTRODUCTION

Having knowledge of patients' alcohol and drug status will help healthcare personnel improve diagnosis and management. The goal of alcohol and drug screening and assessment of hospitalized trauma patients is to identify injured patients who have substance abuse or dependence problems. Screening and assessing are the first steps in understanding patients' medical needs and determining whether there is an underlying substance use disorder. Appropriate, early alcohol and drug intervention should be included in patients' treatment plans.

This *Quick Guide* focuses only on injured patients requiring hospitalization because hospitalization allows time for screening and assessment.

Healthcare providers can help prevent these patients from reinjuring themselves. When screening identifies patients who may have alcohol or drug problems, the concern shown by healthcare providers, even during brief encounters or interventions, can provide significant motivation for assessment and treatment.

(For more information, see TIP 16, pages 1–7.)

TRAUMA PATIENTS

The use of alcohol and drugs is a contributing factor in many injuries but often is ignored by healthcare providers treating trauma patients.

Clinicians who treat trauma patients do not routinely screen for substance use.

Even when facilities screen patients with traumatic injuries for alcohol and drugs, positive screens are often used to address patients' immediate medical needs but not the underlying substance abuse.

When alcohol and drug abuse testing and assessment become routine, it improves

- Nursing morale
- Patient and family satisfaction
- Patient management and followup.

Barriers to Screening

Barriers to alcohol and drug screening include

- Healthcare workers' negative attitudes toward substance abuse and their pessimism about the efficacy of treatment
- Institutional avoidance of responsibility for treating all aspects of injury

- Lack of awareness of the benefits of addressing substance abuse
- The refusal of some insurance companies to reimburse for treatment related to alcohol and drug use.

TRAUMATIC INJURY

Traumatic injury refers to tissue damage caused by external force or violence. Acute injury

- Is damage that happens rapidly
- Can be intentional (assaults or self-inflicted wounds)
- Can be unintentional (falls)
- May be fatal or nonfatal.

Predisposing factors in traumatic injury are

- Physical factors such as age, gender, and physical health (e.g., young males, elderly people with poor vision)
- Environmental factors (e.g., access to guns, use of cars)
- Socioeconomic factors (e.g., employment in a high-risk job, living in a high-crime neighborhood or poorly maintained building)

- Personality/psychological factors (e.g., risk taking, antisocial behaviors, mental illness).

Use of alcohol and drugs is

- Considered a major independent risk factor in unintentional injuries and in intentional injuries such as assaults, homicides, and suicides
- Implicated in up to 50 percent of fatal motor vehicle crashes
- Associated with up to 35 percent of nonfatal crashes
- Implicated in more than half of all homicides and burn cases
- Involved in many hypothermia and frostbite cases and falls.

About one in five persons hospitalized for injuries abuses alcohol or has a drinking problem.

Alcohol/drug use

- Decreases alertness
- Impairs motor function, coordination, and balance, and increases reaction time
- Impairs judgment, perception, and cognitive abilities
- Increases risk taking, impulsivity, and feelings of invulnerability (especially among young adults)

- Affects the emotions, and reduces inhibitions, intensifying anger and depression
- Is associated with increased violent behavior
- Can render a person more medically fragile in chronic use, thus injuries are more severe
- May place an individual in an unsafe environment
- Plays a significant role in reinjury.

Trauma patients receive initial treatment in one of several settings, depending on

- The emergency transport and medical systems and where the injury occurs
- Their initial injury assessment.

Although major trauma centers treat very seriously injured persons, most trauma patients are treated in community hospitals.

Treatment is provided in the

- **Acute phase**—in emergency department/resuscitation areas and operating rooms
- **Subacute phase**—in acute or intensive care units
- **Rehabilitation phase**—in hospital units or freestanding rehabilitation facilities

- **Continuing and followup care phase**—for patients whose injuries result in chronic problems.

Injuries related to alcohol and substance use include

- Traumatic brain injury
- Spinal cord injury
- Internal injury
- Burns
- Nearly drowning.

Special populations at increased risk for traumatic injury are

- **Adolescents**—Injury is the leading cause of morbidity and mortality.
- **Socioeconomic and cultural groups**—Being in a cultural or ethnic minority negatively influences income, education, and housing, which affects safety.
- **Elderly persons**—Small amounts of alcohol can cause significant motor and cognitive impairment.
- **Persons with serious mental illness**—Forty percent abuse a psychoactive substance.

- **Victims of people using alcohol and drugs—** Alcohol or drugs are factors in up to half of all automobile crashes.

Effects of Alcohol and Drugs on Trauma Patients

Alcohol and drugs can affect the acute and long-term management of trauma patients. Knowledge of patients' alcohol and drug status is essential in making clinical decisions throughout treatment for the injury.

Alcohol and drugs

- Complicate assessment and diagnosis of trauma patients
- May increase the severity of an injury (e.g., the injured brain is more vulnerable to increased temperatures, lack of oxygen, low blood pressure, and low clotting factors—all of which result from alcohol intoxication)
- Affect every system in the body
- Can decrease respiration, worsening the effects of the lack of oxygen to the brain and to other organs
- Alters patients' perception of pain, complicating injury assessment
- Affects the body's ability to metabolize anesthetic agents, complicating anesthetic management.

When injuries are not immediately life threatening, surgery may be postponed until the substances wear off.

No antidote exists that alleviates the effects of alcohol.

Patients with severe head injuries and positive urine or toxicology screens present diagnostic problems. The effects of the intoxicants can mimic the symptoms of brain injury, which include

- Behavior changes
- Sleepiness
- Using inappropriate language.

Withdrawal

Alcohol and drug withdrawal symptoms can mimic injury symptoms, confusing diagnosis and treatment.

Signs and symptoms of alcohol withdrawal include

- Tremors
- Anxiety
- Agitation
- Insomnia
- Fever
- Increased heart rate

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- Hypertension
- Excessive perspiration
- Hallucinations
- Seizures
- Delirium.

Alcohol withdrawal symptoms generally start soon after drinking stops and cease within 72 hours. Untreated alcohol withdrawal can be fatal.

Withdrawal from opioids causes

- Anxiety, irritability
- Excessive yawning
- Elevated vital signs
- Diarrhea, abdominal cramps, occasional nausea, and vomiting
- Body aches and bone pain.

Withdrawal from opioid substitutes (methadone and levo-alpha acetyl methadol [LAAM]) starts about a day after the last use. Both medications can be given to hospitalized patients to prevent withdrawal or for pain relief.

Rehabilitation and Long-Term Treatments

Patients who abuse substances

- Have a more complicated medical course of inpatient treatment and longer hospitalization
- Have a higher incidence of psychiatric conditions, which may complicate injury recovery (i.e., their behavior problems may worsen during physical rehabilitation)
- May have worse pain management problems (e.g., opioid users may require very high doses of pain medication). (An inordinate need for pain medications is a possible sign of addiction.)

Acute and chronic use of alcohol lowers the immune response, leading to more posttraumatic infections.

Alcohol and Drug Interventions in Traumatic Injury

Substance abuse treatment clinicians are rarely included on medical treatment teams. Healthcare personnel often assume that most injured intoxicated persons are social drinkers who have drunk too much on an isolated occasion. However, injuries involving alcohol use indicate a problem.

Traumatic injury creates a “teachable moment” when patients may connect the injury to their alcohol and drug use, greatly increasing the likelihood that they realize they have a problem and will accept substance abuse treatment. Even brief interventions—such as a single visit by a clinician—may help patients change their behavior at this time.

The opportunity for helping patients connect their substance use with their injury diminishes as time elapses after the injury. It is imperative that the intervention occur soon after the injury.

(For more information, see TIP 16, pages 9–21.)

SCREENING

Screening tools are a critical component of hospital management of patients with traumatic injuries. These are

- Laboratory tests (usually blood or urine tests)
- Brief oral or written questionnaires
- Self-report questionnaires
- Short structured interviews.

Questions about alcohol and drug use should be included in the routine lifestyle assessment questions asked of all persons presenting for medical care.

- Blood alcohol concentrations (BACs) and urine drug screens should routinely be obtained from all hospitalized trauma patients aged 14 and older at admission to an emergency or trauma center and from patients under 14 if alcohol use is suspected.

- Patients with BACs >20 mg/dl (0.02 percent) should be considered for further assessment.

BAC Determinations

Knowing patients' BACs can help clinicians predict when intoxication will abate. BACs are measured in milligrams (mg) of alcohol per deciliter (dl) of blood (converted to a percentage); 100 mg/dl equals 100 mg percent (0.1 percent). Thus, a BAC of 0.1 percent is equivalent to a blood concentration of 100 mg of alcohol per deciliter of blood. Alcohol metabolizes fairly constantly at 15 mg/dl per hour.

A BAC of 150 mg/dl without noticeable intoxication indicates a high alcohol tolerance.

A BAC of 100 mg/dl usually is achieved when a person weighing 70 kilograms (154 pounds) drinks three to four drinks per hour. This varies because alcohol metabolism is affected by

- Stomach contents (amount of food ingested)
- Speed of alcohol consumption
- Gender
- Age
- Body size.

Exhibit 16–1 lists various BACs and their effects.

Exhibit 16-1

Effects of Alcohol by BAC

BAC	Effect
50 mg/dl (0.05%)	Impairs most people
50 to 70 mg/dl (0.05% to 0.07%)	Impairs driving ability
80 mg/dl to 100 mg/dl (0.08% to 0.10%)	Is considered drunk driving (depending on State)
100 mg/dl (0.10%)	Dramatically increases probability of an auto crash
>200 mg/dl (0.20%)	Usually indicates a diagnosable alcohol problem
>400 mg/dl (0.40%)	Can be lethal

Laboratory Tests

BACs and urine drug screens can be done in less than 1 hour.

A number of tests are available to detect the presence of various drugs.

Urine screens can determine the presence of

- Alcohol
- Sedative-hypnotics

- Cocaine
- Opioids
- Cannabis.

Standard toxicologic tests do not screen for hallucinogens or inhalants. Tests for phencyclidine, methadone, and lysergic acid diethylamide (LSD) should be ordered, depending on the patient's symptoms.

Use of more than one substance at a time is common. About one-third of trauma patients who test positive for alcohol also test positive for at least one illicit drug. The detection of alcohol should be a "red flag" for drugs. If alcohol is not detected, drugs are frequently detected.

Key points:

- Laboratory screening for alcohol and drugs should be standard protocol.
- No test is infallible.
- A negative screen indicates that no drugs were found. Negative results do not definitively indicate that patients do not have alcohol or drug problems—just that substances were not detected in that test.

A positive screen

- May need to be verified with a different type of test
- Should, for any nonprescribed psychoactive substance, trigger an alcohol and drug assessment (if the patient consents)
- May not indicate use or impairment at the time of injury; some drugs are detectable for weeks after use.

Cocaine, crack, and amphetamines are detectable 72 hours after use. Marijuana metabolites are found weeks after use.

Other laboratory tests that may indicate chronic alcohol abuse are

- An elevated level of gamma-glutamyltransferase (GGT)
- A complete blood count showing a greater-than-normal mean corpuscular volume.

Results of drug screens may help explain medical complications.

Many patients admitted to hospitals will be discharged the day after admission; results must be available quickly so that intervention can be attempted, if necessary.

Universal screening prevents problems caused by discretionary screening. (Patients imply consent to screening by coming for treatment.) Screening only some patients opens the door to charges of culture, race, gender, or age bias.

Screening Questionnaires and Interviews

Several screening questionnaires and interview tools are available (see TIP 16, pages 37–43). Facilities may use an existing instrument or develop a screening tool based on several instruments.

When deciding which questionnaires to use, consider

- Whether a trained screener is needed
- Whether the test is self-administered
- How much time is required and will be available for completing the questionnaire.

Alcohol-Screening Questions

Alcohol-screening questions focus on the quantity and frequency of use. Examples include

- “How many days per week do you drink?” (frequency)
- “On a day when you drink alcohol, how many drinks do you have?” (quantity)
- “How many times in the last month did you drink more than five drinks at one sitting?” (binge drinking)

To minimize problems with inaccurate self-reporting

- Define a *single* drink (1 drink = 12 ounces of beer, 1 ounce of liquor or distilled spirits, or 5 ounces of wine)
- Inquire about *specific* amounts of beer, wine, and hard liquor
- Inquire about the frequency, quantity, and occasions of heavier use with separate questions.

Binge drinking is generally defined as consuming between five and nine drinks at one sitting at least once a week.

Asking the following questions in combination has been shown to accurately detect alcoholism

- “Have you ever had a drinking problem?”
- “When was your last drink?”

Only the Michigan Alcoholism Screening Test (MAST) has been validated for use with trauma patients. The SMAST, presented in exhibit 16–2, is also effective and does not have a tendency to produce false positives, as does the MAST.

Exhibit 16-2

Short Michigan Alcoholism Screening Test (SMAST)

1. Do you feel you are a normal drinker? (By normal we mean you drink less than or as much as most people.)
2. Does your wife, your husband, a parent, or other near relative ever worry or complain about your drinking?
3. Do you ever feel guilty about your drinking?
4. Do friends or relatives think you are a normal drinker?
5. Are you able to stop drinking when you want to?
6. Have you ever attended a meeting of Alcoholics Anonymous?
7. Has drinking ever created problems between you and your wife, your husband, a parent, or other near relative?
8. Have you ever gotten into trouble at work because of your drinking?
9. Have you ever neglected your obligations, your family, or your work for 2 or more days in a row because you were drinking?
10. Have you ever gone to anyone for help about your drinking?

(continued on next page)

Exhibit 16-2 (continued)

11. Have you ever been in a hospital because of your drinking?
12. Have you ever been arrested for driving under the influence of alcoholic beverages?
13. Have you ever been arrested, even for a few hours, because of other drunken behavior?

Source: Selzer, M.L., Vinokur, A., and Van Rooijen, L., A self-administered Short Michigan Alcoholism Screening Test (SMAST), *Journal of Studies on Alcohol* 36:117-126, 1975.

Screening Special Populations

Patients needing special consideration in screening include those who are

- Homeless
- Brain injured
- Illiterate
- Non-English speaking
- Adolescents
- Pregnant
- Elderly
- Victims of domestic violence
- Mentally ill
- Hearing impaired or deaf.

Factors indicating a further assessment is needed are:

- A BAC >20 mg/dl (0.02 percent)
- A positive result on a psychoactive substance urine screen
- An abnormally elevated GGT
- The specified number of positive answers on a particular screening questionnaire (e.g., on the MAST instrument it is two positive answers).

(For more information, see TIP 16, pages 31–47.)

ASSESSMENT

Assessment timing must be tailored to patients' receptivity and ability to communicate. Consider

- The projected length of hospitalization
- Whether medical procedures are ongoing
- Whether the hospital has inpatient treatment.

Physicians should encourage full participation in assessments by explaining that hospital policy requires those with positive screening tests to discuss their substance use with a specialist.

Who Performs Assessments?

Assessments require good interviewing techniques and sensitivity to culture and gender issues and can be done by

- Physicians
- Nurses and nurse practitioners
- Social workers
- Alcohol and drug counselors
- Physician's assistants.

Assessors should be certified in evaluating and treating persons with substance use disorders. A nonjudgmental, empathic attitude is crucial as well as knowing how to confront

- Shame
- Manipulation
- Lying
- Minimization
- Belligerence
- Anger.

Assessors should introduce themselves and explain why they are there. If patients will be hospitalized for only a day, this encounter (e.g., a brief educational intervention or advice about alcohol

and drug use) may be all that is possible. Skilled assessors can quickly establish rapport.

Barriers to Assessment

Factors affecting a patient's cooperation are

- Fear that results will be available to the criminal justice system, insurance companies, or employers (assure patients that results are confidential).
- Physical effects such as intubation, heavy sedation, and lethargy; the effects of some medications; or traumatic brain injury
- Focusing on the injury instead of the substance use
- Hearing or cognitive problems
- Feelings of shame, the stigma of substance abuse, and ignorance about substance abuse as a treatable disease.

The support of family, friends, and staff is important in ensuring a patient's participation. The family should be part of assessments whenever possible (with the patient's consent).

Also consider a patient's

- Socioeconomic group
- Ethnicity

- Gender
- Type of injury
- Sexual identity and orientation.

Assessment Components

A complete assessment includes a patient's

- Medical and psychiatric history
- Physical examination
- Mental status examination
- History and patterns of alcohol and drug use
- Social and family history
- Employment and educational histories
- Legal status, including criminal justice system involvement
- Financial status.

Include questions about the alcohol and drug use or problems of

- Parents
- Siblings
- Aunts and uncles.

Two or more positive responses on the Skinner Trauma History (exhibit 16–3) indicate a high probability of excessive drinking or alcohol abuse.

Exhibit 16-3

Skinner Trauma History

Since your 18th birthday, have you

1. Had any fractures or dislocations of your bones or joints?
2. Been injured in a road traffic accident?
3. Injured your head?
4. Been injured in an assault or fight (excluding injuries during sports)?
5. Been injured after drinking?

Psychiatric histories should include any treatment for alcohol and drug abuse.

Physical exams focus on withdrawal symptoms and signs of chronic use, including

- A perforated septum (cocaine sniffing)
- Liver damage (alcohol use)
- Track marks (injection drug use).

Mental status examinations help validate the accuracy of assessments. Mood, memory, orientation, affect, and cognition should be evaluated in patients with traumatic brain injury: It affects a patient's ability to participate in treatment. Mental status examinations can help clinicians detect withdrawal symptoms.

Finding *patterns of alcohol and drug use* can lead to a diagnosis of chronic use. Obtain information about patterns of use from

- Patients
- Family members and significant others
- Physical signs and symptoms.

Diagnoses

Diagnoses are made using the definitions in the *Diagnostic and Statistical Manual of Mental Disorders*, 4th edition. The manual defines substance dependence as a maladaptive pattern of substance use leading to clinically significant impairment or distress as manifested by three or more of the following occurring at any time in a 12-month period:¹

1. Tolerance, as defined by either:
 - The need for markedly increased amounts of the substance to achieve intoxication or the desired effect
 - A markedly diminished effect with continued use of the same amount of the substance

¹Adapted from American Psychiatric Association, *Diagnostic and Statistical Manual of Mental Health Disorders*, 4th ed., Washington, DC: American Psychiatric Association, 1994, page 181.

2. Withdrawal, as manifested by either:
 - The characteristic withdrawal syndrome for the substance
 - The same (or a closely related) substance is taken to relieve or avoid withdrawal symptoms
3. Taking the substance often, in larger amounts or over a longer period than was intended
4. A persistent desire or unsuccessful efforts to cut down on or control substance use
5. Spending a great deal of time trying to obtain or use the substance or to recover from its effects
6. Giving up or reducing important social, occupational, or recreational activities because of substance use
7. Continued substance use despite knowledge of having had a persistent or recurrent physical or psychological problem that was likely to have been caused or exacerbated by the substance.

Once diagnoses are made, treatment plans are developed that consider the

- Disorder's severity
- Available treatment resources
- Patients' preferences.

A referral then is made.

Treatment and Aftercare

Treatment planning uses a biopsychosocial approach. Consider all substance abuse treatment options for trauma patients, including

- Inpatient
- Intensive outpatient
- Outpatient
- Residential
- Family therapy.

Consider that

- A patient's medical conditions from the trauma must be integrated into treatment (e.g., taking prescribed analgesics for pain management).
- Patients who abuse substances may display difficult behaviors that complicate medical, nursing, and psychiatric management. Knowledge of these issues can help staff anticipate problems.
- Posttrauma care may include ongoing rehabilitation, physical therapy, and a long inpatient period and will affect substance abuse treatment. Continuing care (e.g., self-help groups) should be discussed.

- The family should become involved in treatment as soon as possible. Family members may have alcohol and drug problems themselves, mixed feelings about the patient getting help, or feel helpless about the situation.

Role of Physicians

All physicians with clinical responsibility should

- Recognize alcohol- and drug-caused dysfunction as early as possible
- Be aware of related medical complications
- Be able to assess and diagnose substance abuse and refer patients to appropriate treatment.

Brief Interventions

Brief interventions consisting of even a single session

- Focus on raising patients' awareness and providing advice
- May address conditions needed to instigate change
- Can decrease alcohol consumption and its adverse effects by 20 to 50 percent.

Client-Centered Interviewing

Professionals can encourage behavior change with client-centered interviewing. Interviewers

should be empathic and warm and provide objective feedback; confrontation will not encourage change.

Interviews should include

- Assessing a patient's readiness for change
- Identifying barriers to his or her recovery
- Identifying a patient's strengths
- Reinterpreting past experiences in light of current medical consequences
- Negotiating a followup plan
- Providing hope.

Referrals

Healthcare professionals can refer patients to appropriate treatment programs or counselors or can recommend self-help groups. The likelihood of successful referrals is increased by

- Telephoning for a specific appointment while the patient is present
- Following up with an encouraging note or phone call to the patient
- Arranging for the patient to be seen without delay.

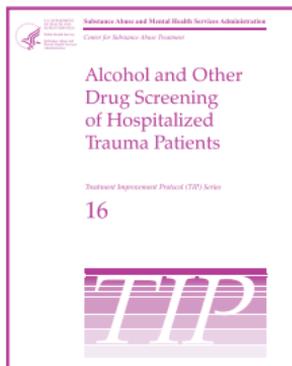
(For more information, see TIP 16, pages 47–55.)

Ordering Information

TIP 16 *Alcohol and Other Drug Screening of Hospitalized Trauma Patients*

TIP 16-Related Products

KAP Keys for Clinicians Based on TIP 16



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Easy Ways to Obtain Free Copies of All TIP Products

1. Call SAMHSA's National Clearinghouse for Alcohol and Drug Information (NCADI) at **800-729-6686**, TDD (hearing impaired) **800-487-4889**
2. Visit CSAT's Web site at **www.csat.samhsa.gov**



Other Treatment Improvement Protocols (TIPs) that are relevant to this Quick Guide:

TIP 24, *Guide to Substance Abuse Services for Primary Care Clinicians (1997, Reprinted 2000)* **BKD234**

TIP 31, *Screening and Assessing Adolescents for Substance Use Disorders (1999)* **BKD306**

TIP 34, *Brief Interventions and Brief Therapies for Substance Abuse (1999)* **BKD341**

See the inside back cover for ordering information for all TIPs and related products.