Reasons Why Trauma Surgeons Fail to Screen for Alcohol Problems

Per E. Danielsson, MD; Frederick P. Rivara, MD, MPH; Larry M. Gentilello, MD; Ronald V. Maier, MD

Background: Alcohol screening and intervention have been recommended as routine components of trauma care but are rarely performed.

Hypothesis: An association exists between current screening and counseling practices and the trauma surgeon's knowledge, attitude, and perceived role and responsibility toward alcohol problems.

Participants: Random-sample survey (n = 241) of members of the American Association for the Surgery of Trauma.

Main Outcome Measures: Reported screening and counseling practices.

Results: Fifty-four percent of respondents screened 25% or fewer patients, while only 29% screened most patients. The most common reason for not screening was "lack of time." Most (76%) were not familiar with the most common clinically used screening questionnaires, and 83% reported no training in alcohol screening. Screening was more likely if attending physicians perceived a major responsibility for screening (P < .001). Nonscreeners were twice as likely to state screening was "not what I was trained to do" and more frequently believed screening offends patients (P = .001). Independent predictors of screening were perceived major role responsibility (odds ratio [OR], 2.35; 95% confidence interval [CI], 1.38-4.01) and confidence in screening ability (OR, 1.96; 95% CI, 1.05-3.67) and counseling ability (OR, 2.27; 95% CI, 1.34-3.85). Eighty-eight percent of respondents would be willing to devote time to training if shown that counseling is effective.

Conclusions: Lack of screening and counseling appears to be due to cognitive factors, not lack of motivation. Skills on how to screen and counsel for alcohol abuse should be taught to trauma surgeons, because a strong correlation exists between screening and confidence in skills. There is a need for education regarding results of effective intervention trials in medical settings.

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The National Institute on Alcohol Abuse and Alcoholism has suggested that trauma surgeons should become more involved in the identification and referral of trauma patients with alcohol problems for counseling and not just in the treatment of their injuries.1 This recommendation is based on increasing evidence that demonstrates the effectiveness of relatively brief alcohol interventions that are capable of being conducted within the time, staffing, and financial constraints typical of a busy trauma center.2-10

Currently, most trauma centers do not screen patients for alcohol problems, and the provision of counseling is even more rare. If recommendations to integrate alcohol screening and counseling into trauma care are to be implemented, a better understanding of the reasons why trauma surgeons are currently not doing so is required.11-14 Surgeons may feel that it is not their role (responsibility), they may not be aware of literature supporting screening and intervention (knowledge), they may have adequate skills (confidence), or they may believe that screening is intrusive or upsetting (attitudes).15

The specific hypothesis tested in this study was that there is an association between current screening practices and the perceived role, responsibility, knowledge, confidence, and attitudes of trauma surgeons toward alcohol screening and intervention. To our knowledge, this is the first study of trauma surgeons that has examined the reasons why screening and counseling for alcohol problems are so infrequent in trauma centers.
MATERIALS AND METHODS

The study was performed at the University of Washington School of Medicine, Seattle. The study population was the membership of the American Association for the Surgery of Trauma, the leading academic society dedicated to the advancement of the care of the injured patient. A survey was sent to a random sample of 50% of the association’s membership (n = 419) in April 1996, and a second mailing was sent to nonresponders 6 weeks later. Anonymity was provided to enhance validity of the responses and increase the response rate.

The questionnaire consisted of 29 items and incorporated principles derived from prior surveys of physician knowledge of screening techniques, attitudes toward screening, and active screening patterns.16,17 It was pilot tested on a separate group of physicians (the surgical faculty, residents, and fellows at the University of Washington), then revised and mailed to the random sample of trauma surgeons. Data analysis was performed using χ² tests for categorical data and logistic regression analysis for examination of potential confounding factors.

RESULTS

A total of 241 surveys were returned, a response rate similar to most published mail survey reports involving trauma surgeons.18-20 Of these, 38 were eliminated: 7 because the respondents were retired and 31 because they worked primarily in pediatric trauma centers. A total of 203 (48.4%) of 419 surveys sent were completed by physicians actively working in adult trauma centers and were therefore included in the analysis. Men constituted 93.0% of respondents, and the median year of graduation from medical school was 1974. Most respondents (80.3%) practiced in an academic setting; 16.3% listed community hospitals as their primary practiced setting and 3.4% of surgeons practiced in both settings.

Eighty-three percent of respondents stated they had had no prior training in screening or diagnosing patients with alcohol problems. Another indicator of a lack of knowledge of screening for alcoholism was the finding that 76.4% of the trauma surgeons responding were unfamiliar with the most common clinically used alcohol screening instrument, the CAGE questionnaire (Table 1).

Table 1. Attitude Toward and Knowledge of Commonly Used Alcohol Screening Tools Among Trauma Surgeons

<table>
<thead>
<tr>
<th>Screening Instrument*</th>
<th>Useful, %</th>
<th>Not Useful, %</th>
<th>Not Familiar With, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>BAC</td>
<td>81.1</td>
<td>5.6</td>
<td>13.3</td>
</tr>
<tr>
<td>SMAST</td>
<td>16.1</td>
<td>3.4</td>
<td>80.5</td>
</tr>
<tr>
<td>CAGE</td>
<td>21.3</td>
<td>2.3</td>
<td>76.4</td>
</tr>
<tr>
<td>AUDIT</td>
<td>7.5</td>
<td>4.0</td>
<td>88.5</td>
</tr>
<tr>
<td>TWEAK</td>
<td>3.5</td>
<td>2.3</td>
<td>94.2</td>
</tr>
</tbody>
</table>

* BAC indicates blood alcohol concentration; SMAST, Short Michigan Alcoholism Screening Test; CAGE, Have you ever tried to Cut down on your drinking? Are you Guilty about your drinking? Do you ever drink Eye-openers? AUDIT, Alcohol Use Disorders Identification Test; and TWEAK, Tolerance, Worry, Eye-openers, Anger, Cutting-down.

Of trauma patients, and we did not include this intermediate group in this analysis.

The most common reason cited by nonscreeners for failure to screen was “too busy” (46.6%). In contrast, only 28.2% of screeners reported being “too busy” (P = .04, Table 2). The survey specifically asked trauma surgeons who they believed should be responsible for screening. The attending physician was felt to have ma-
major responsibility for screening by 54.5% of screeners compared with 25.5% of nonscreeners ($P<.001$, Table 3). A significantly greater percentage of screeners (40.4%) also stated the chief resident has major responsibility for screening compared with 22.6% of nonscreeners ($P = .03$). No single group of health professionals was consistently cited as being responsible for screening by nonscreeners.

Screeners (54.4%) were significantly more confident in their screening skills than nonscreeners (25.4%) ($P = .02$). The most common test used to screen for alcohol problems was the admission blood alcohol concentration, which 89.1% of screeners reported using in 75% to 100% of patients (Table 4). Asking questions about alcohol-related behavior was used with intermediate frequency; 53.0% of screeners reported asking most patients questions about alcohol use and about the quantity of alcohol they consume but rarely used formal questionnaires or substance abuse consultations.

The perceived efficacy of screening tests at identifying problem drinkers was high in both groups but was higher in screeners (94.8%) than in nonscreeners (83.2%) ($P = .06$). In contrast, the perceived efficacy of alcohol treatment was relatively low; only 34.5% of screeners and 24.3% of nonscreeners rated brief interventions as being at least moderately effective ($P = .23$, Table 5). Almost half of both screeners and nonscreeners also believed that there were “not enough treatment resources available to make screening worthwhile.” A significantly greater proportion of nonscreeners (29.9%) vs screeners (10.3%) thought that screening patients for alcohol problems was intrusive and offends patients ($P = .008$).

Logistic regression was used to examine predictors of screening while controlling for other factors, and the results are shown in Table 6. Belief that the attending physician has major responsibility for screening, confidence in the ability to diagnose alcohol problems, and confidence in the ability to personally counsel patients were the 3 significant predictors of alcohol screening. Each factor roughly doubled the likelihood of screening for alcohol abuse. No other factors were significant predictors of screening in the multivariate model.

The scientific justification for routine alcohol screening and counseling in trauma centers has been established, as documented by reports from the Institute of Medicine and the National Institute of Alcohol Abuse and Alcoholism. In this survey of members of the American Association for the Surgery of Trauma, most trauma surgeons reported that they screen less than one quarter of their patients for alcohol problems. We attempted to determine why current recommendations for alcohol screening and intervention in trauma centers have largely been ignored.

This survey revealed that trauma surgeons’ knowledge and confidence toward alcohol screening are relatively poor, and these factors are significant predictors of screening behavior. The most common reason provided for failure to screen was “too busy.” Screening for alcohol problems can easily be performed by obtaining an admission blood alcohol concentration in the emergency department when blood is drawn for other diagnostic tests. An intoxicating blood alcohol concentration has a high correlation with a subsequent positive result on screening questionnaires. The use of a Breathalyzer or passive nasal breath test is another rapid and inexpensive means of determining blood alcohol concentration.

Screening questionnaires can also be incorporated into trauma center routines with minimal expense and disruption. The CAGE test is a simple 4-item screening questionnaire with its name derived from key words in each of the 4 questions that can easily be incorporated into an admission history or interview: Have you ever tried to Cut down on your drinking? Are you Annoyed when people complain about your drinking? Do you ever feel Guilty about your drinking? Do you ever drink Eye-openers? The CAGE

### Table 4. Methods Used by Screeners to Detect Alcohol Problems

<table>
<thead>
<tr>
<th>Method or Question</th>
<th>&lt;25% of Patients</th>
<th>50% of Patients</th>
<th>&gt;75% of Patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blood alcohol concentration</td>
<td>7.3</td>
<td>3.6</td>
<td>89.1</td>
</tr>
<tr>
<td>Questionnaires</td>
<td>79.6</td>
<td>6.1</td>
<td>14.3</td>
</tr>
<tr>
<td>Behavioral observations</td>
<td>27.4</td>
<td>17.6</td>
<td>55.0</td>
</tr>
<tr>
<td>Psychiatry or social work consult</td>
<td>47.1</td>
<td>19.6</td>
<td>33.3</td>
</tr>
<tr>
<td>Asking about quantity of alcohol consumed</td>
<td>10.3</td>
<td>12.1</td>
<td>77.6</td>
</tr>
<tr>
<td>Asking about maximum quantity of alcohol consumed on average drinking day</td>
<td>14.0</td>
<td>19.3</td>
<td>66.7</td>
</tr>
</tbody>
</table>

### Table 5. Beliefs About Alcohol Screening and Treatment Among Trauma Surgeons (n = 203)

<table>
<thead>
<tr>
<th>Statement</th>
<th>Screeners (n = 58)</th>
<th>Nonscreeners (n = 107)</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Screening does identify problem drinkers</td>
<td>94.8</td>
<td>83.2</td>
<td>.06</td>
</tr>
<tr>
<td>Screening does not offend patients</td>
<td>89.7</td>
<td>70.1</td>
<td>.001</td>
</tr>
<tr>
<td>Alcoholism is a treatable illness</td>
<td>87.9</td>
<td>90.6</td>
<td>.78</td>
</tr>
<tr>
<td>Brief interventions are at least somewhat effective</td>
<td>34.5</td>
<td>24.3</td>
<td>.23</td>
</tr>
<tr>
<td>Compared to diabetes, treatment of alcohol abuse is at least somewhat effective</td>
<td>34.5</td>
<td>47.2</td>
<td>.16</td>
</tr>
</tbody>
</table>

*a For an explanation of screeners and nonscreener, see the “Results” section.*
test has been extensively tested in trauma patients and has been shown to have a high rate of agreement with the admission blood alcohol concentration and with more lengthy screening instruments.24,25

Most surgeons indicated that they have had no training in screening or recognition of alcohol problems and have little confidence in their ability to intervene patients with respect to their alcohol problems. Three of four surgeons were not familiar with the CAGE questionnaire, and four of five were not familiar with the Michigan Alcoholism Screening Test, another commonly used screening instrument.

Nearly 30% of trauma surgeons also responded that screening “only needs to be done selectively.” However, the ability to clinically detect acute alcohol intoxication using clinical suspicion or physical examination is poor.26 The false-negative rate has been reported to be as high as 23% and increases to more than one third when patients are severely injured, chemically paralyzed, brain injured, or intubated.27

Many trauma surgeons responded that there were inadequate treatment resources available to make screening worthwhile. Studies10,27 (also L. M. Gentilello, MD; A. Villaveces, MD; R. R. Ries, MD; unpublished data, 1998) on the use of brief interventions capable of being delivered within 1 or 2 counseling sessions have demonstrated a significant reduction in alcohol intake in patients who are not severely dependent, which characterizes the alcohol use characteristics of most of the trauma patient population. A recent review of 32 randomized controlled trials of brief interventions revealed a consistent 20% to 50% reduction in alcohol intake in treated compared with control patients.2

Most patients reduce or stop their drinking for a period after treatment. Comparisons reveal that patients who abuse substances have compliance rates comparable with patients receiving treatment for diabetes, asthma, or hypertension, and the likelihood of requiring additional treatment due to relapse within a 12-month period is generally higher for these conditions than for alcoholism.28,29 If interventions are routinely provided to patients who access the health care system, the cumulative quantity of alcohol consumed and the number of symptom-free periods can be significantly reduced. This is the approach recommended by the Institute of Medicine’s report Broadening the Base of Treatment for Alcohol Problems, which recommends using nonspecialists to provide brief counseling for patients with mild to moderate alcohol problems in a variety of health care settings.21

One encouraging finding of this survey was that trauma surgeons appeared to have a belief in their primary roles in the identification and treatment of alcohol problems in their patients, since most did not believe that screening should only be done by specialists in the field. Trauma surgeons also appeared to be motivated to learn about addressing alcohol problems. Nearly all respondents were willing to devote at least 1 hour to learn brief intervention techniques if they could be convinced they are effective.

This article has documented that the lack of alcohol screening and counseling in trauma centers seems to be due to cognitive factors and not to a lack of motivation or sense of responsibility on the part of trauma surgeons. There appears to be an urgent need for training in alcohol-related issues, because alcoholism is the most common cause of injuries and their recurrence. Thus, addressing alcohol problems is vital to successful injury prevention programs. We recommend training of surgical residents and established trauma surgeons on screening methods for alcoholism, since there was a strong correlation between screening practices and confidence in screening skills. Because surgeons also appear to lack knowledge about the success rate of alcohol treatment, there is also a compelling need for education regarding the successful results of brief intervention programs in health care settings that have been documented in the alcohol treatment literature.

Injuries should no longer be considered the “neglected disease of modern society” but, rather, the neglected symptom of alcoholism. Knowledge about alcohol screening and treatment should be considered part of the skills required to care for injured patients and should be taught in surgical residencies, advanced trauma life support programs, and continuing medical education courses.

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REFERENCES

Peptic ulcer disease has well-defined causes, with most cases related to Helicobacter pylori infection and nonsteroidal anti-inflammatory drug use.

Background: Peptic ulcer disease has well-defined causes, with most cases related to Helicobacter pylori infection and nonsteroidal anti-inflammatory drug use.

Objectives: To report performance rates on measures of care related to peptic ulcer disease in hospitalized Medicare patients and to identify improvement opportunities.

Methods: Retrospective study of 2267 Medicare beneficiaries hospitalized with peptic ulcer disease. Data were obtained from 2 sources: medical records (n = 1380) from 80 hospitals—16 hospitals in each of 5 states (Alabama, Florida, Louisiana, Tennessee, and Texas)—and a national random sample (n = 887). Three measures of care were evaluated: (1) rate of diagnostic screening or treatment for H pylori infection, (2) rate of screening for nonsteroidal anti-inflammatory drug use on admission to the hospital, and (3) rate of assessment of risk factors for recurrence.

Results: The rate of screening or treatment for H pylori infection was 52.9% to 59.8% among the 5 states and 55.6% in the national random sample. The rate of screening for nonsteroidal anti-inflammatory drug use was 64.6% to 75.4% among the states and 73.4% in the national random sample. The rate of assessment at discharge from the hospital for additional risks for ulcer recurrence was 66.1% to 73.6% among the states and 70.9% in the national random sample.

Conclusions: Based on hospital records, slightly more than half of the Medicare patients admitted with diagnoses studied are being considered for H pylori eradication. If recurrence of this disease is to be reduced, physicians must adopt current screening and treatment recommendations. (1999;159:149-154)

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