

# Patients with high alcohol screening scores use more post-surgical health care resources

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According to the results of a new study published in the March 2012 issue of the *Journal of the American College of Surgeons*, patients who score highest on the Alcohol Use Disorders Identification Test–Consumption (AUDIT-C) experience longer postoperative hospital stays and more days in the intensive care unit (ICU); they are also more likely to return to the operating room (OR) within 30 days of a surgical procedure than patients with low AUDIT-C scores. As a result, study authors determined alcohol screening could be used to identify patients at risk for increased postoperative use of health care resources.

Alcohol misuse is a risk factor for postoperative complications,<sup>i ii iii</sup> and scores from the AUDIT-C can identify surgical patients who are at increased risk.<sup>iv v</sup> Little is known about whether preoperative alcohol screening can also identify patients who will use more [health care](#) resources after a surgical procedure. The AUDIT-C is a validated three-item alcohol screening questionnaire scored on a scale of 0 to 12 points, with higher scores indicating heavier drinking and greater risk of alcohol-related health problems.<sup>vi vii</sup> The results of this study showed that high-risk drinkers (AUDIT-C scores 9 to 12) experienced increased inpatient health care use relative to low-risk drinkers (AUDIT-C score 1 to 4) in all areas except hospital readmissions. Specifically, men with high-risk drinking spent nearly a day longer in the hospital and 1.5 more days in the ICU, and they were twice as likely to return to the OR compared with low-risk drinkers (10 percent versus 5 percent, respectively).

"The findings from this study indicate that preoperative alcohol

screening might serve as an effective tool to identify patients at risk for increased postoperative care," said Anna D. Rubinsky, PhC, lead author of the study and a researcher at Veteran's Affairs (VA) Puget Sound Health Care System, Seattle, WA. "Implementing preoperative [alcohol screening](#) and providing proactive interventions could potentially decrease the need for costly postoperative resources and improve patient outcomes."

The new study, conducted by researchers at VA Health Services Research and Development (K. Bradley, Principal Investigator, now at Group Health Research Institute, Seattle, WA), examined the association between AUDIT-C scores from up to one year before an operation and postoperative hospital length-of-stay (LOS), total ICU days, return to the OR, and hospital readmission among men admitted to VA hospitals nationwide for major surgical procedures.

Other studies have found that 16 percent of men undergoing major surgical procedures screen positive for [alcohol](#) misuse in the year prior to operations, and have AUDIT-C scores associated with increased complications (scores 5 to 12).<sup>iv</sup> More than a quarter of these patients have scores also associated with increased postoperative health care resource usage (scores 9 to 12).<sup>viii</sup>

Moreover, evidence suggests that preoperative interventions for heavy drinkers could help. A previous randomized, controlled trial among patients scheduled for elective colorectal surgery who reported drinking more than four drinks daily found that patients who stopped drinking for one month prior to the procedure reduced their risk for postoperative complications by as much as 50 percent.<sup>ix</sup>

Many factors can contribute to increased postoperative health care use, including surgical complications, more complex procedures and preoperative morbidity, all of which are more common among heavy

drinkers. The study's findings factored in differences in socio-demographic variables such as age, race, marital status and disability due to military service; smoking status; type of surgical procedure; and surgical complexity. Additionally, the study found postoperative complications accounted for much of the increased health care utilization. Interestingly, the study used low-risk drinkers as a reference point because previous studies have shown that non-drinkers have poorer health<sup>x xi</sup> and are at greater risk of postoperative complications than low-risk drinkers,<sup>iv</sup> possibly because non-drinkers may have stopped due to previous complications related to drinking.

The study included 5,171 male VA patients who completed the AUDIT-C on mailed surveys (October 2003 through September 2006) and were hospitalized for non-emergency, non-cardiac operations in the following year. Women were excluded due to low numbers with high AUDIT-C scores. Of the 280 eligible women, only 14 (5 percent) had scores in the highest AUDIT-C risk groups.

Data for this study were obtained from the Survey of Healthcare Experiences of [Patients](#) (SHEP) from the VA Office of Quality and Performance, the National Patient Care Database (NPCD) and the VA Surgical Quality Improvement Program (VASQIP). VASQIP was founded more than 20 years ago as a statistically-reliable, risk-adjusted tool to help the Department of Veteran's Affairs measure its quality of care. The program's success morphed into what is now the American College of Surgeons National Surgical Quality Improvement Program (ACS NSQIP), which is used in hundreds of hospitals across the nation to reduce complications, improve outcomes and decrease costs.

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