

Alcohol Use Disorders Identification Test – Consumption (AUDIT-C): description, strengths and knowledge gaps^[1]

Purpose

The Alcohol Use Disorders Identification Test – Consumption (AUDIT-C) is a three item screen for heavy drinking and/or active dependence.^[2]

Drug(s) of Concern

- Alcohol

Time-frame(s) of Interest

- Recent (last 12 months)

Populations Tested

- Males & females^[3-5]
- Young people^[3, 6, 7]
- Aboriginal and Torres Strait Islander peoples^[8-10]
- Trauma patients^[11]
- Adults^[1-4]
- Older people^[12-14]
- Veterans^[2, 4, 15]

Settings Tested

- AOD specialist services^[16]
- Primary care^[2, 4]
- General hospital^[11, 17-19]
- General population^[18, 20]
- Online^[21]

Diagnostics

Utility:

- ✓ Validated in Australia^[19]
- ✓ Key performance measure for Aboriginal and Torres Strait Islander Community Controlled Health Services^[10]
- ✓ Brief screen^[9, 16]
- ✓ Easy to administer and score^[2]

Psychometric properties:

- A systematic review^[22] found amongst adults:
 - Females: AUDIT-C cut-off 3 or more (N=5 studies). Sensitivity: 0.73-0.97 (95%CI: 0.62-0.99); specificity: 0.28-0.91 (95%CI: 0.21-0.93)
 - Males: AUDIT-C cut-off 4 or more (N=4 studies). Sensitivity: 0.82-1.00 (95%CI: 0.75-1.00); specificity: 0.34-0.89 (95%CI: 0.25-0.92)
- Older persons (aged 55-89): moderate agreement between the AUDIT-C and the Co-morbidity Alcohol Risk Evaluation Tool (CARAT)^[23] has been found

Alcohol Use Disorders Identification Test – Consumption (AUDIT-C)

Please tick (✓) one box for each question

Q1. How often do you have a drink containing alcohol?

Never 0 Monthly or less often 1 2-4 times a month 2 2-3 times a week 3 4 times or more a week 4

Q2. How many units of alcohol do you drink on a typical day when you are drinking?

1 or 2 0 3 or 4 1 5 or 6 2 7 to 9 3 10 or more 4

Q3. How often have you had six or more units (if female) or eight or more (if male) on a single occasion in the last year?

Never 0 Less than monthly 1 Monthly 2 Weekly 3 Daily or almost daily 4

Total

Administrator, Rater, Scoring and Interpretation

Administrator: Clinician/Worker
Client self-complete
Online

Rater: Client

Scoring & interpretation: The AUDIT-C comprises three questions.

Each question is scored on a five-point scale (i.e., 0, 1, 2, 3, or 4). A total score is calculated by summing the responses to all three questions. The total minimum possible score is 0, and the maximum possible score is 12 (i.e. range: 0-12).

AUDIT-C score interpretation^[4]

Sex	Score	Interpretation
Females	3 or more	Likely to indicate hazardous drinking, and potentially alcohol dependence
Males	4 or more	likely to indicate hazardous drinking, and potentially alcohol dependence

Resources

Tool citation:	Bush, K., Kivlahan, D.R., McDonell, M.B. et al. <i>The AUDIT alcohol consumption questions (AUDIT-C): an effective brief screening test for problem drinking</i> . Archives of Internal Medicine, 1998. 158(16): 1789-1795. ^[2]
Copyright:	Available in the public domain. May be downloaded and used with appropriate acknowledgement.
Training/manual:	None found
Brief intervention:	<ul style="list-style-type: none">• General population:<ul style="list-style-type: none">• <i>Here's to Your Health: A guide to reducing alcohol-related risks and harms</i> - https://www.mhc.wa.gov.au/media/1934/heres-to-your-health2017web.pdf• <i>Alcohol is my drinking putting me at risk?</i> - https://www.mhc.wa.gov.au/media/2423/is-my-drinking-putting-me-at-risk-audit-c-dl-brochure.pdf.• Pregnant women:<ul style="list-style-type: none">• <i>Women Want to Know Project</i> - http://www.alcohol.gov.au/internet/alcohol/publishing.nsf/Content/65598B7652DC1C5CCA257CD70019CF9A/\$File/Women-want-to-know-AuditC-A4-flyer-2017.pdf.
Other:	None found.

Knowledge Gaps

There is utility in the use of brief screeners,^[9, 16] such as the AUDIT-C, when time is of the essence. The AUDIT-C is an abridged version of the AUDIT. Higgins-Biddle and Babor have raised concerns that attempts to validate the AUDIT-C have changed the purpose of the original instrument and that the AUDIT-C reflects American standard drinking sizes, recommended limits and drinking cultures which may be significantly different to other countries.^[24]

AUDIT-C cut-off scores reported in different studies for males and females

Population	Recommended Cut-off Score	
	Males	Females
Primary care, veterans ^[4]	4 or more*	3 or more*
Veterans ^[2]	3 or more	3 or more
University students ^[3]	8 or more	7 or more
Nursing home residents ^[12]	4 or more	2 or more
Pre-operative patients ^[17]	6 or more	4 or more
AOD treatment ^[16]	10 or more	10 or more
Adolescents ^[7]	3 or more	3 or more
Aboriginal and Torres Strait Islander peoples ^[8]	5 or more~	5 or more~
General population ^[18]	5 or more	5 or more

* Commonly cited AUDIT-C cut-off ~ at risk: 5 or more; higher risk: 6 or more; dependence: 9 or more

Reviews are recommended to:

- Map how the AUDIT-C has been taken up and implemented across Australia, including in social, welfare and community settings
- Better understand the service provider context in terms of how, why and for whom the AUDIT-C works, and in what circumstances.

References

1. Fischer, J.A., Roche, A.M., and Duraisingam, V. *Alcohol Use Disorders Identification Test – Consumption (AUDIT-C): description, strengths and knowledge gaps*. 2021, National Centre for Education and Training on Addiction (NCETA), Flinders University: Adelaide, South Australia. (overview citation)

2. Bush, K., Kivlahan, D.R., McDonnell, M.B., Fihn, S.D., and Bradley, K.A. *The AUDIT alcohol consumption questions (AUDIT-C): an effective brief screening test for problem drinking*. Archives of Internal Medicine, 1998. 158(16): 1789-1795.
3. Verhoog, S., Dopmeijer, J., de Jonge, J., et al. *The use of the Alcohol Use Disorders Identification Test–Consumption as an indicator of hazardous alcohol use among university students*. European Addiction Research, 2020. 26(1): 1-9.
4. Bradley, K.A., DeBenedetti, A.F., Volk, R.J., et al. *AUDIT-C as a brief screen for alcohol misuse in primary care*. Alcoholism: Clinical and Experimental Research, 2007. 31(7): 1208-1217.
5. Fujii, H., Nishimoto, N., Yamaguchi, S., et al. *The Alcohol Use Disorders Identification Test for Consumption (AUDIT-C) is more useful than pre-existing laboratory tests for predicting hazardous drinking: a cross-sectional study*. BMC Public Health, 2016. 16(1).
6. Campbell, C.E. and Maisto, S.A. *Validity of the AUDIT-C screen for at-risk drinking among students utilizing university primary care*. Journal of American College Health, 2018. 66(8): 774-782.
7. Liskola, J., Haravuori, H., Lindberg, N., et al. *AUDIT and AUDIT-C as screening instruments for alcohol problem use in adolescents*. Drug & Alcohol Dependence, 2018. 188: 266-273.
8. Calabria, B., Shakeshaft, A.P., Clifford, A., et al. *Reducing drug and alcohol use and improving well-being for Indigenous and non-Indigenous Australians using the Community Reinforcement Approach: a feasibility and acceptability study*. International Journal of Psychology, 2020. 55: 88-95.
9. Islam, M., Oni, H., Lee, K., et al. *Standardised alcohol screening in primary health care services targeting Aboriginal and Torres Strait Islander peoples in Australia*. Addiction Science and Clinical Practice, 2018. 13(1): 1-11.
10. Lee, K.K., Conigrave, J.H., Wilson, S., et al. *Short screening tools for risky drinking in Aboriginal and Torres Strait Islander Australians: modified AUDIT-C and a new approach*. Addiction Science and Clinical Practice, 2019. 14(1): 1-12.
11. Vitesnikova, J., Dinh, M., Leonard, E., Boufous, S., and Conigrave, K. *Use of AUDIT-C as a tool to identify hazardous alcohol consumption in admitted trauma patients*. Injury, 2014. 45(9): 1440-1444.
12. Dreher-Weber, M., Laireiter, A.R., Kühberger, A., et al. *Screening for hazardous drinking in nursing home residents: evaluating the validity of the current cutoffs of the Alcohol Use Disorder Identification Test–consumption questions by using ethyl glucuronide in hair*. Alcoholism: Clinical and Experimental Research, 2017. 41(9): 1593-1601.
13. Aalto, M., Alho, H., Halme, J.T., and Seppä, K. *The Alcohol Use Disorders Identification Test (AUDIT) and its derivatives in screening for heavy drinking among the elderly*. International Journal of Geriatric Psychiatry, 2011. 26(9): 881-885.
14. Bright, S.J. and Williams, C.M. *Evaluation of Australia's first older adult-specific early intervention for reducing alcohol-related harm*. Australian Health Review, 2018. 42(6): 676-679.

15. Wattersson, J., Gabbe, B., Dietze, P., Bowring, A., and Rosenfeld, J.V. *Comparing short versions of the Alcohol Use Disorders Identification Test (AUDIT) in a military cohort*. *BMJ Military Health*, 2019. 165(5): 312–316.
16. Wardell, J.D., Cunningham, J.A., Quilty, L.C., Carter, S., and Hendershot, C.S. *Can the AUDIT consumption items distinguish lower severity from high severity patients seeking treatment for alcohol use disorder?* *Journal of Substance Abuse Treatment*, 2020. 114: 108001.
17. Neumann, T., Linnen, H., Kip, M., et al. *Does the Alcohol Use Disorders Identification Test–Consumption identify the same patient population as the full 10-item Alcohol Use Disorders Identification Test?* *Journal of Substance Abuse Treatment*, 2012. 43(1): 80–85.
18. Rumpf, H., Hapke, U., Meyer, C., and John, U. *Screening for alcohol use disorders and at-risk drinking in the general population: psychometric performance of three questionnaires*. *Alcohol and Alcoholism*, 2002. 37(3): 261–268.
19. Wade, D., Varker, T., Forbes, D., and O'Donnell, M. *The Alcohol Use Disorders Identification Test–Consumption (AUDIT-C) in the assessment of alcohol use disorders among acute injury patients*. *Alcoholism: Clinical and Experimental Research*, 2014. 38(1): 294–299.
20. Aalto, M., Alho, H., Halme, J.T., and Seppä, K. *AUDIT and its abbreviated versions in detecting heavy and binge drinking in a general population survey*. *Drug & Alcohol Dependence*, 2009. 103(1–2): 25–29.
21. Khadjesari, Z., White, I.R., McCambridge, J., et al. *Validation of the AUDIT-C in adults seeking help with their drinking online*. *Addiction Science and Clinical Practice*, 2017. 12(1). DOI: doi.org/10.1186/s13722-016-0066-5.
22. O'Connor, E.A., Perdue, L.A., Senger, C.A., et al. *Screening and behavioral counseling interventions to reduce unhealthy alcohol use in adolescents and adults: updated evidence report and systematic review for the US Preventive Services Task Force*. *JAMA*, 2018. 320(18): 1910–1928.
23. Towers, A., Szabó, Á., Newcombe, D., et al. *Hazardous drinking prevalence and correlates in older New Zealanders: A comparison of the AUDIT-C and the CARET*. *Journal of Aging and Health*, 2019. 31(10): 1770–1789.
24. Higgins-Biddle, J.C. and Babor, T.F. *A review of the Alcohol Use Disorders Identification Test (AUDIT), AUDIT-C, and USAUDIT for screening in the United States: past issues and future directions*. *The American Journal of Drug and Alcohol Abuse*, 2018. 44(6): 578–586.