

Pre-Clinical Phase Preventing Dementia: Drinking, Thinking, & Brain Health

Background:

Brain health is essential to quality of life throughout the life course. There is a growing body of research evidence associating various activity lifestyle factors with the prevention of cognitive decline and a decreased risk of dementia. Because most of these risk factors are self-manageable, health practitioners are being challenged to re-think a primary and secondary prevention approach to help client's achieve and maintain cognitive vitality in later life.

This edition of "In Focus!" provides key pieces of research evidence that support the healthy use of alcohol and discusses the effect these lifestyle behaviours have on brain health.

Did you know?

- Alcohol is the most commonly used drug for adults over the age of 65.
- Canada has "Low-Risk Drinking Guidelines"? (See the Clinical Toolkit!)
- For most people, more than two drinks a day does more harm than good.
- If you want to improve your brain health, you're better off attending your emotional well-being by managing the social stressors in your life, eating a healthier diet, getting more exercise, and giving up smoking, rather than drinking more or starting to drink.



Key Clinical Messages:

- All persons should receive brief alcohol screening upon first health care encounter regarding frequency and amount of alcohol use. If alcohol misuse or at-risk use is assessed, clients should receive brief intervention counseling with follow-up.
- It is often difficult to determine whether a cognitive deficit observed in a senior is due to substance use problems, vitamin deficiency, medical problems or dementia. Careful assessment for early alcohol problems is required.
- Alcohol consumption has a dose dependent relationship (J or U shaped) with cognition. A small protective advantage for cognition is associated with light to moderate alcohol consumption as compared to complete abstinence and heavier drinking.
- The Dementia Clinical Practice Working Group **does not** advise the consumption of alcohol for the purposes of preventing cognitive loss or dementia because the safe use of alcohol is extremely complex and variable across populations and for individuals.
- The Dementia Clinical Practice Working Group recommends the use of a "Stages of Change Readiness" model in a client-centered approach as a respectful and clinically appropriate approach for individual care. Goal-setting and support strategies aimed at harm reduction or complete abstinence are therefore based on client readiness to make healthier choices about alcohol use.

SECTION I: Identifying Clinical Issues

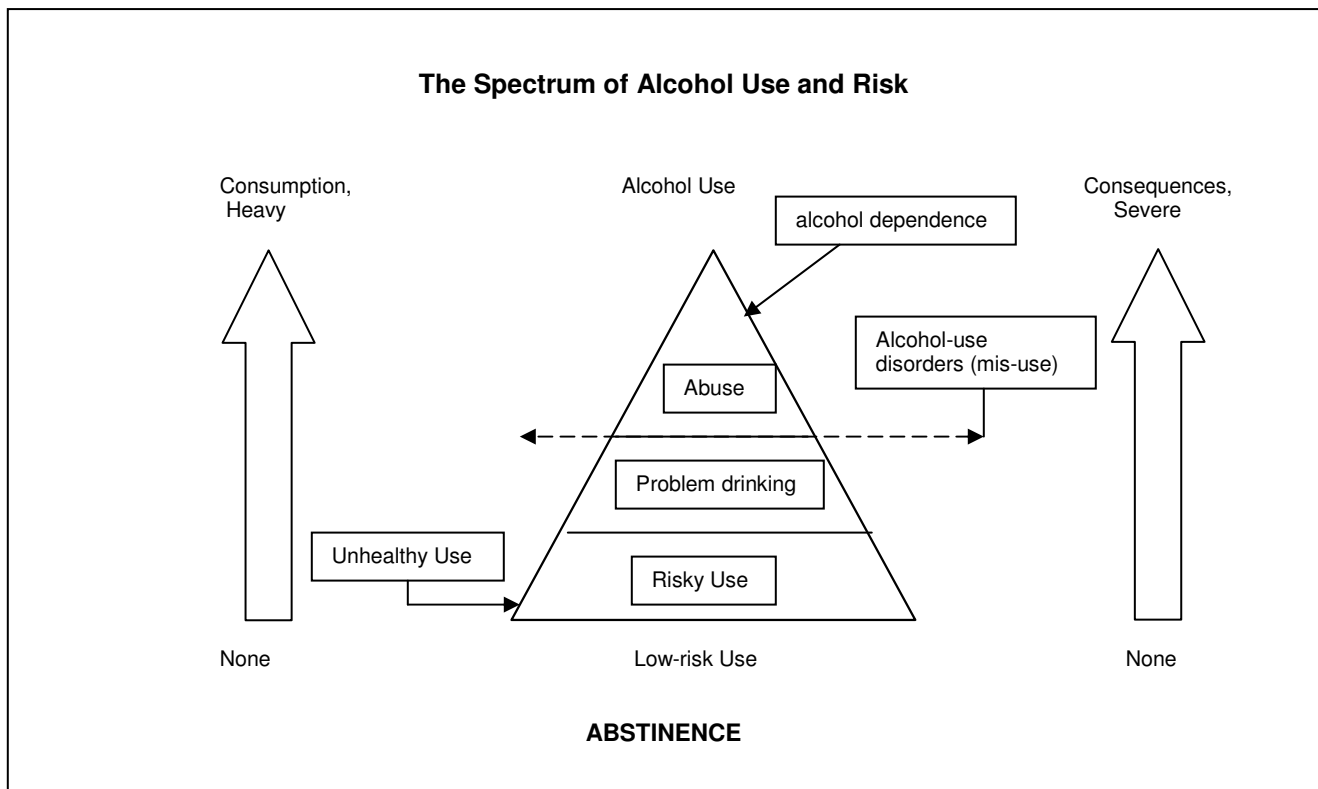
1) The Relationship between Drinking Alcohol and Cognition.

Most Canadians drink in moderation. There is a general public understanding that “drinking in moderation” is both socially acceptable and safe, and may even have some health benefits, especially for cardio-vascular disease. What is difficult to define is the term “moderation” because so many factors influence how alcohol can affect an individual. Age, sex, body weight, other illnesses and medications are but a few of the factors that may confound or exaggerate the effect of any amount of alcohol consumed.

This same vague terminology about moderate drinking is encountered within a growing body of research that looks at the effect of alcohol on general cognition. There is a large degree of variability between studies in creating categories that try to describe what “moderation” is. In some studies, this may be as little as one drink per week or less, while in others, the “moderate” category is up to 1 drink per day for women and 2 drinks per day for men. It is little wonder that there are mixed messages about the safe effects of alcohol, and whether drinking any alcohol is beneficial or not.

It is easier to identify and define terms that describe unhealthy alcohol use. Alcohol use results in a significant number of deaths and disability each year in Canada as a result of injuries and accidents¹. The unhealthy use of alcohol is best viewed as a spectrum, (see Figure 1) that results in varying degrees of risk to health.

Figure 1: Risk and Alcohol Use, adapted from Saitz (2005)²



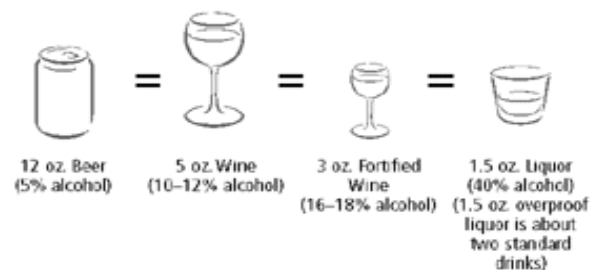
In Canada, “Low Risk Drinking Guidelines³” have been established by the Centre for Addiction and Mental Health⁴ (see Clinical Toolkit at the end of this module for linkage). They are endorsed by many Canadian provincial and federal addiction and mental health agencies, including the Canadian Centre on Substance Abuse⁵.

Summary of Canada’s Low-Risk Drinking Guidelines

Goal: Maximize Life, Minimize Risk

- 0 : Zero drinks = lowest risk of an alcohol-related problem
- 2 : No more than 2 standard drinks on any one day
- 9 : Women: up to 9 standard drinks a week
- 14 : Men: up to 14 standard drinks a week

One Standard Drink = 13.6 g of alcohol



- 5 oz/142 mL of wine (12% alcohol)
- 1.5 oz/43 mL of spirits (40% alcohol)
- 12 oz/341 mL of regular strength beer (5% alcohol).

Higher alcohol beers and coolers have more alcohol than one standard drink

- If you don't already drink, don't start for health reasons.
- If you do drink, avoid getting intoxicated or drunk.
- Wait at least one hour between drinks.
- Have something to eat. Drink non-alcoholic beverages, such as water, soft drinks or fruit juice

The Low-Risk Drinking Guidelines are for people of legal drinking age

Source: For full information on these guidelines, including a list of who the Guidelines do NOT apply to, please see the Centre for Addiction and Mental Health⁴ website at:

http://www.camh.net/about_addiction_mental_health/low_risk_drinking_guidelines.html

2) Alcohol and Aging

Although alcohol consumption tends to decline among older adults as compared to younger people, alcohol is the most common drug used by adults over the age of 65. Statistics from the Canadian 1998 census (Seniors) data indicates that 54% of women and 67% of men aged 65+ consume alcohol. While the majority of older people who drink do not experience problems, the Canadian Addictions Survey (2004)⁵ indicates that 16% of older adults (age 55+) report drinking heavily (greater than 5 drinks in one occasion) and almost a half (47%) of these heavy drinkers report that these episodes occurred at least once per month, which defines alcohol dependence.

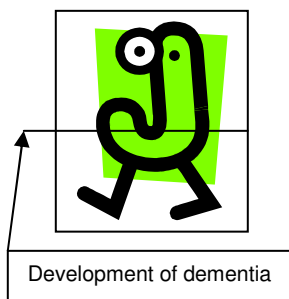
Patterns of alcohol use among seniors tend to change as they grow older⁶. Chronic stress tends to be positively related to alcohol dependence and problems⁷. Alcohol misuse among the elderly tends to fall into the following categories^{8,9}

1. **Early onset**, meaning that the individual developed alcohol dependence early in life and carries this habit into his or her later years;
2. **Late onset**, meaning that the level of alcohol consumption became a problem later in life, and that an age associated stressor or trigger initiated the difficulty, e.g., retirement, loss of a spouse, chronic pain, etc.
3. **Crisis onset**¹⁰, which is a pattern that reflects an acute increase in alcohol consumption for a brief period of time in response to a crisis, but is followed by long periods (months or years) of sobriety or abstinence. The pattern may repeat with a return to heavy drinking when another crisis re-occurs.

It is also important to emphasize that ability to metabolize alcohol changes with aging. This means that small amounts of alcohol will linger longer in the bloodstream of an older person as compared to a younger person. When this lingering is combined with prescription medications (most seniors rely on several prescription and OTC medications), this combined effect can be deadly. There are many excellent resources for both health professionals and material for teaching seniors about medication and alcohol interactions. See the “clinical toolkit” at the end of this module for more information.

3) The Relationship between Drinking Alcohol and Dementia

There has been a modest amount of both level 1 and level 2 research into the relationship between alcohol and dementia over the past 15 years. The results are far from conclusive, but are less complicated than the conflicting history of smoking evidence (see previous issue of “In Focus!”). *Overall, drinking alcohol has a dose-dependent relationship associated with the development of cognitive impairment and dementia*



Alcohol and dementia is often described as a “J” or “U” shaped relationship because several studies have found that total abstinence (the small tale of the J) and heavy drinking (the large staff of the J) is associated with greater cognitive decline and dementia, as compared to light-to-moderate alcohol intake (the underbelly of the J) which appears to have a mild protective effect (see diagram). Despite several studies¹¹, there is inconclusive evidence that the type of alcohol (red vs. white wine, beer, spirits) makes a difference.

The risk of dementia increases with increasing alcohol consumption, particularly for individuals carrying the apolipoprotein ϵ -4 allele, a well established gene of susceptibility for dementia. In one study¹², ϵ -4 carriers who drank infrequently were 2.3 times more likely to develop dementia and carriers who drank frequently were 3.6 times more likely. However, the risk of dementia for ϵ -4 carriers who never drank

was no different from non-carriers that never drank, emphasizing the importance of gene-environment interaction.

Mechanism of action

The mechanism of action for alcohol and dementia needs to be considered from both its reported positive effects and the negative effects. The protective effects are thought to result from an inhibitory effect of alcohol on platelet aggregation and an alteration in the serum lipid profile. The vascular benefits of these mechanisms is thought to result in a reduction of vascular risk, which disadvantages the persons who practice total abstinence, hence being at slightly higher risk for dementia than light to moderate drinkers. Red wine advocates postulate that the natural flavonoids of red wine have an antioxidant effect on the oxidative stress associated with aging, dementia and vascular disease, resulting in a protective effect. There is inadequate evidence to support this theory at this time¹³.

While the negative clinical outcome of excessive drinking on cognition is clearly established, the actual causality is unclear. Alcohol and its metabolites are known to affect the tissues of the central nervous system and prolonged or excessive alcohol intake is associated with an increased risk of dementia from direct neurotoxic effects. However, excessive alcohol consumption is a confounded relationship at best, as alcoholics are often at risk from corresponding lifestyle choices that leave them susceptible to cognitive losses. These involve being at risk for medical co-morbidities (hypertension, stroke, liver and heart failure, dyslipidemia), head injuries such as contusions and subdural hematomas from falls and fights, smoking, poor nutrition with marked vitamin deficiencies, depression and adverse drug reactions.

Heavy drinking and its effect on cognition

Excessive drinking has a strong and unambiguous association with both cognitive impairment and dementia. Binge drinking in early and mid-life is associated with dementia in middle age¹². In the recent Canadian Community Health survey⁵ (2004), about 16% of the population age 55+ reported at least one episode of heavy drinking (5 or more drinks on a single occasion) in the past year. Close to half (47%) of these older heavy drinkers reported that such episodes occurred at least once a month.

Substance (e.g., alcohol)-induced persisting dementia is a separate clinical entity from the more commonly known Wernicke-Korsakoff syndrome. Substance-induced dementias are diagnosed by the APA criteria of DSM-IVb (see insert), whereas Wernicke-Korsakoff is a syndrome associated with heavy drinkers that have a poor diet and a deficiency of Vitamin B1 (thiamine), Wernicke-Korsakoff syndrome is hallmarked by an abrupt onset of profound memory impairment (anterograde and retrograde amnesias) with relative sparing of other cognitive functions. It is important to note that substance-induced dementias have a significant potential for some cognitive recovery if abstinence is achieved, whereas Wernicke-Korsakoff syndrome usually results in permanent cognitive damage/loss.

Substance-induced persisting dementia is typically manifested by multiple cognitive deficits, including both:

- memory impairments; AND
- one or more disturbances such as
 - aphasia
 - apraxia
 - agnosia
 - a disturbance in executive function which causes significant impairment in social and occupational functioning;
- these deficits do not occur exclusively during a delirium and persist beyond the usual duration of substance intoxication or withdrawal;
- There is evidence from the history, physical examination, or laboratory findings that the deficits are etiologically related to the persisting effects of substance use.

SECTION II: Approaches to Clinical Intervention

The current (U.S.) National Institute on Alcohol Abuse and Alcoholism Clinicians' Guide (2005 edition)¹⁴ is one of the more succinct yet comprehensive approaches to clinical intervention. The NIAAA guide outlines a three part intervention strategy: ***routine alcohol screening and detection, brief intervention and treatment referral.***

The NIAAA guide begins with a prescreening question for heavy drinking, and continues to assess for at-risk drinking and alcohol mis-use disorders should the pre-screen be positive. The NIAAA guide provides tools, clinical direction and support on how to assess (questions, approach), and how to conduct a brief intervention (sample questions, key clinical indicators and decision making). The guide provides many practical support materials from simple-to-use flow sheets, the Alcohol Use Disorders Identification Test (AUDIT) screening instrument, baseline assessment forms, follow-up progress notes, and a new section on treatment management, including medications.

Health practitioners involved in primary health care or mental health or who have regular client contact which requires screening and full assessment of alcohol use are advised to download this very useful clinical guide. The full guide is available online at:

pubs.niaaa.nih.gov/publications/Practitioner/CliniciansGuide2005/guide.pdf

Routine Screening for Unhealthy Alcohol Use:

Problems with alcohol often go undetected, despite repeated contact with health care staff. One of the reasons that health professionals may not recognize alcohol-related problems, especially in seniors, is that they are only considering situations where there is a chronic problem. Clients with unhealthy alcohol use often present to health care facilities asymptotically and it is easy to overlook the early stages of alcohol misuse. For example, symptoms such as insomnia, depression and anxiety, cardiac dysrhythmias or dyspepsia are all possible cues¹⁴ of alcohol-related problems. Additionally, staff may not recognize that many medications in combination with moderate alcohol use can also lead to problems for seniors or that moderate use can become problematic for older people, simply because the ability to metabolize alcohol changes with age.

The best clinical evidence recommends that all clients in contact with health care professionals should be routinely screened on a first contact (and further as needed) for alcohol use using a validated survey instrument. There is no perfect validated tool that screens for all populations across the risk spectrum of alcohol use¹⁵. Three validated and useful tools are presented in this module with the benefits and challenges of each: CAGE, AUDIT and ARPS. The use of a screening tool is preferable to no screening at all, but caution must be exercised to use the data in context of a larger clinical assessment.

CAGE Questionnaire:

A common assessment tool, the CAGE¹⁶ format remains a good screening instrument for suspected alcohol dependence and abuse. Each of the letters in the mnemonic CAGE refers to a question:

1. Have you ever felt you should **cut** down on your drinking?
2. Have people **annoyed** you by criticizing your drinking?
3. Have you ever felt bad or **guilty** about your drinking?
4. Have you ever had a drink first thing in the morning to steady your nerves or to get rid of a hangover (**eye-opener**)?

The CAGE questionnaire was designed primarily to detect alcohol abuse and dependence, and that is its limitation. The CAGE, while quick, is however not sensitive to "at-risk" drinking, which is common among older populations, even at low-level consumption. It also does not distinguish between current

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and past problem drinking. The sensitivity of the CAGE questionnaire in clinical populations is reported to be about 84% to 91%, and its specificity is about 77-96%¹⁷.

AUDIT tool:

A popular recent tool, the Alcohol Use Disorders Identification Test (AUDIT)¹⁴ incorporates questions about consequences of drinking along with questions about drinking quantity and frequency. It is designed to detect the full spectrum of unhealthy drinking from “at-risk” through to alcohol use disorders such as abuse and dependence. The tool is longer to use, but can be given to clients to self-administer. It takes about 5 minutes to complete. Its sensitivity ranges from 51-97% and its specificity ranges from 78-96%¹⁸, the wider variation reflecting use across different populations. Recently, modified versions^{19,20} of the AUDIT tool have undergone validation studies, looking for a means of shortening the length of the tool while retaining adequate specificity and sensitivity. Further research is required.

ARPS tool:

The ARPS (Alcohol-Related Problems Survey)²¹ is another recent screening tool which classifies drinking as non-hazardous, hazardous or harmful. Non-hazardous drinking is defined as consumption with no known risks for adverse physical or psychological health events. Hazardous drinking is consumption with such risks. Harmful drinking results in adverse events. The advantage of using the ARPS tool is with older clients who may incur alcohol-related risks at low consumption levels due to age-related physiological changes, declining health and functional abilities, and increased medication use, but these risks are below those detected by the AUDIT tool and not detected by CAGE. Testing of the ARPS²² revealed that most harmful drinkers were identified by their use of alcohol with their co-morbidity, whereas most hazardous drinkers were identified by their use of alcohol with medications. Sensitivity and specificity of the original ARPS was 80% and 50%, respectively, and both improved to 82% after revisions²³.

In a comparative study²¹ between 4 screening tools (CAGE, AUDIT, SMAST (not discussed), and ARPS) in an older population of 574 current drinkers over the age of 65, the ARPS tool correctly classified drinkers who screened positive on the CAGE, SMAST or AUDIT as hazardous or harmful drinkers 91, 75, and 100% of the time, respectively. The majority of ARPS-identified hazardous or harmful drinkers did not screen positive on the CAGE, SMAST or AUDIT. These drinkers had medical conditions or used medications that placed them at risk for adverse health events, none of which was addressed in the other three screens. In this study, the ARPS identified nearly all drinkers detected by the CAGE, SMAST, and AUDIT and detected hazardous and harmful drinkers not identified by these measures. Overall, The ARPS tool is more sensitive in identifying older persons who may be at risk or experiencing harm as a result of their alcohol use and co-morbidities than the AUDIT. It also measures specific risks associated with alcohol use not obtained by other screening measures and may therefore facilitate interventions by busy clinicians to reduce such risks²⁴.

Assessment of Unhealthy Alcohol Use:

Screening for unhealthy alcohol use is but one part of assessment. It is often difficult to determine whether a cognitive deficit observed in a senior is due to substance use problems, vitamin deficiency, medical problems or dementia. Careful assessment for early alcohol problems is required.

It is note worthy that assessment of problem alcohol use can be approached from two perspectives: 1) alcohol is the problem and the clinical focus in on the level of consumption; 2) alcohol consumption is an indicator of other problems or only one part of a larger problem. Practitioners are encouraged to go further in their assessments: functional impairments (ADL and IADLs), cognitive losses, medical co-morbidities (pain? depression?), and the social and emotional challenges in the individual’s life, and other addictions²⁵ (e.g., smoking), can help to determine what type of approach might be needed when

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offering assistance. Assessment of the individual's resources and strengths is also important. Examples may include stable housing, adequate income, social connectedness such as supportive family or friends, and psycho-emotional and spiritual well-being.

When the clinical focus is on level of alcohol consumption, assessment includes evaluating an individual's readiness to change their drinking behaviour. "Readiness to change" involves a multi-stage model that includes pre-contemplation, contemplation, preparation, action, maintenance, and relapse. There is a surge of recent research investigating efficacy of different counseling approaches in relation to readiness. Matching counselling techniques (e.g., brief advise vs. motivational counselling) to the individual's stage of change readiness is an important management strategy²⁶.

Brief Intervention: How useful is it?

Brief intervention usually refers to 10 to 15 minute sessions of counseling. It may involve techniques of brief advise or motivational interviewing that include feedback, client-centered goal setting, as well as a follow-up contact with one or more discussions lasting 10-15 minutes with a clinician. Current best practice is to use a "Stages of Change Readiness" model²⁷ which focuses on meeting the individual where they are at, and assisting them in the direction of positive behavioural change to make healthier alcohol use choices. This client-centered approach to alcohol use is a respectful and clinically appropriate approach that may involve harm reduction strategies²⁸ in the pre-contemplation and contemplation stages of alcohol use, or an advisement of complete abstinence if the client is amenable. The NIAAA Guidelines (mentioned above) provide detailed questions and how-to-approaches to interview and assist individuals at-risk and with alcohol use disorders.

But how effective is brief intervention? Recent research also indicates that a brief intervention involving Motivational Interviewing techniques result in effective counseling with an enhanced client return for follow-up²⁹. Several randomized clinical trials³⁰ in various settings (primary care facilities, emergency departments, hospitals) have examined this question, and the evidence for reduced alcohol consumption is well established. In a large recent systemic review and meta-analysis³¹ examined 19 trials that included 5639 individuals, and the results indicated that brief alcohol intervention is effective in reducing alcohol consumption by a mean pooled average of -38g of ethanol at 6 and 12 months.

Clinical Knowledge and Degree of Comfort in Applying Interventions

The effectiveness of any evidence-based clinical interventions depends on them being delivered consistently to appropriate clients. Brief alcohol intervention is known to be effective at reducing excessive drinking and its concomitant health and social problems, yet many practitioners report discomfort with the process. Several studies have examined health practitioners' attitudes, knowledge and experiences of screening, assessing and providing motivational counseling and referral services³². A few studies^{33, 34} have examined the characteristics of both the practitioner and the client in relation to who receives intervention. Researchers have found that interpersonal factors relating to clients and practitioners contributed to the selective provision of brief alcohol intervention in primary care. Repeatedly, study recommendations have advised that education and support to clinicians is critical to successful use of screening and intervention techniques. A recent large meta-analysis by a World Health Organization collaborative³⁵ summarized this approach: training and academic detailing were effective in improving knowledge and enhanced the use of alcohol screening tools, assessment and follow-up. The Clinical Practice Recommendations in this module reflects this research.

SECTION III: Summary of Key Evidence

The relationship of alcohol and its effects on general cognition, aging and dementia is an area of recent research focus. Interest in this research has concentrated on everything from identifying the physiological mechanisms of alcohol on the brain, investigating the patterns of alcohol consumption

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and the influence of types of alcohol to understanding the relative risks and associated benefits of alcohol consumption, and its relationship to dementia.

The process of creating Clinical Practice Recommendations is described in the Dementia Project Website at <http://inside.interiorhealth.ca/NR/rdonlyres/4BAD12CF-0150-486D-8B48-2261BBF7869A/15864/HowareClinicalPracticeRecommendationsCreated.pdf>. The key evidence that has been reviewed and used to create these Practice Recommendations is summarized below.

- In a large prospective cohort study with an average follow-up of 23 years (level 1 evidence), Anttila et al³⁶ (2004) investigated the relationship between mid-life alcohol consumption and mild cognitive impairment and dementia in old age, and the possible modification of this relation by apolipoprotein ε4. They found that participants who drank no alcohol at mid-life and those who drank alcohol frequently were both twice as likely to have mild cognitive impairment in old age as those participants who drank infrequently. They also found that carriers of apoE-ε4 had an increased risk of dementia with increasing alcohol consumption. Compared with non-carriers who never drank, the odds ratio for carriers who never drank was 0.6, for infrequent drinkers it was 2.3 and for frequent drinkers it was 3.6 (95%CI). They concluded that alcohol drinking in middle age showed a U-shaped relation with risk of MCI in old age. The risk of dementia increased with increasing alcohol consumption only in those individuals carrying the apolipoprotein ε4 allele.
- In a nested case control study of a larger population based cohort study in 4 US communities (level 1 evidence); Mukamal et al (2003)³⁷ investigated the prospective relationship of alcohol consumption and risk of dementia in older adults. They found that when compared with abstinence, the adjusted odds for dementia among those whose weekly alcohol consumption was less than 1 drink were 0.65 (95% CI, 0.41-1.02); 1-6 drinks 0.46 (CI95%,0.27-0.77); 7-13 drinks 0.69 (95%CI, 0.37-1.31) and 14 or more drinks, 1.22 (95% CI, 0.60-2.49). A trend toward greater odds of dementia associated with heavier alcohol consumption was most apparent among men and participants with an apolipoprotein ε4 allele. The relationship was similar for alcohol use with Alzheimer disease and with vascular dementia. The authors concluded that compared with abstinence, consumption of 1-6 drinks weekly is associated with a lower risk of incident dementia among older adults.
- In a large prospective community study with an average follow-up of 7.3 years (level 1 evidence), Ganguli et al³⁸(2005) investigated the association between alcohol use and cognitive decline. Controlling for age, sex, education, depression, smoking and cognitive function at baseline, these researchers found 3 trajectories that they categorized as no drinking, minimal drinking (once a month or less), and moderate drinking more than once a month, averaging between weekly and daily), which measured the frequency of alcohol consumption, not the quantity. There were few heavy drinkers in this elderly cohort. Overall, the results showed a consistent pattern of better baseline scores and lesser decline over time in individuals who consumed alcohol minimally or moderately, compared to those who reported no drinking at baseline. The beneficial effects of alcohol intake against cognitive decline appear concentrated in the areas of learning, executive function (specifically psychomotor speed and set maintenance as measured by Trail-making test), and general mental status. These researchers concluded that within a representative elderly cohort, a pattern of mild to moderate drinking, compared to non-drinking was associated with lesser average decline in cognitive domains over the 7 year time study period.

- In a large prospective cohort study (level 1 evidence), Stampfer et al³⁹, 2005 completed an investigation into the effects of moderate alcohol consumption on cognition in aging women. They followed over 12, 480 original participants of the Nurses Health Study, looking at alcohol consumption patterns from 1980 to 1995, and then investigating the relationship between alcohol and cognition more closely from 1995 to 2001. They found that after adjustments for multivariate confounding factors, moderate drinkers (less than 15.0 grams of alcohol per day, about 1 drink) had a relative risk of cognitive impairment that was about 20% lower than that among non drinkers. (RR 0.77, 95% CI 0.67-0.88) They found that the type of alcohol had no significant difference in risks, and also found no interaction with the apolipoprotein E genotype. They concluded that in women, up to one drink per day does not impair cognitive function and may actually decrease the risk of cognitive decline.

Summary and Conclusions about drinking alcohol and dementia

In summary, there is a small data base of mixed level 1 and 2 (not presented) evidence that alcohol consumption has a dose dependent relationship (J or U shaped) with cognition. Light to moderate drinking in middle to late life is associated with better cognitive performance and lesser cognitive decline than no drinking, or heavy drinking^{12,37,38}. A small protective advantage for cognition is associated with light to moderate alcohol consumption as compared to complete abstention and heavier drinking.

However, the Dementia Clinical Practice Working Group **does not** advise the consumption of alcohol for the purposes of preventing cognitive loss or dementia because the safe use of alcohol is extremely complex and variable across populations and for individuals. The Strength of Recommendations concerning drinking alcohol and dementia are category B.

Clinical Practice Recommendations:

Clinical practice recommendations are directed at an agency level for planning and management purposes, as well as at an individual client care level. The Strength of Recommendations (**A,B,C**) concerning drinking, dementia and brain health are noted following each recommendation .



Strength of Recommendations Taxonomy

Evidence-based Recommendations are rated as follows:

- A** = consistent and good quality client-oriented evidence;
- B** = inconsistent or limited-quality client-oriented evidence;
- C** = evidence lacking, more research needed; based on expert consensus/usual practice

The SORT research grading tool⁴⁰ emphasizes client-oriented outcomes – outcomes that matter to clients and help them live longer or better lives, including reduced morbidity, mortality or symptoms, improved quality of life and lower cost of health care services. Levels of evidence are ranked 1-3 based on the validity (quality) of the study design. Strengths of recommendations (A to C) are based on grading the quantity and consistency of the studies and their findings. Ratings are listed following each recommendation or group of recommendations as needed.

* Strength of Recommendations are made from conclusions about the amount and quality of level of evidence evaluated using the SORT tool. See IH Dementia website for further details:

<http://inside.interiorhealth.ca/Health+Delivery/Home+Community/Planning+Development/Dementia+Care+Strateg%2Fy/>, under "Project Tools"

Written by: Interior Health Dementia Clinical Practice Working Group
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The Dementia Clinical Practice Working Group advises the following clinical practice recommendations concerning **alcohol, dementia and brain health**:

Clinical Practice Recommendations

The Dementia Clinical Practice Working Group advises the following clinical practice recommendations concerning **alcohol, brain health and dementia**:

1. Education/Training:

- Educate frontline staff, physicians and other care providers about the spectrum of unhealthy alcohol use and brain health. **(C)**
- Educate physicians and other primary care providers to a client-centered harm reduction (or complete abstinence) approach to alcohol-related care management that includes screening, assessment, and brief intervention advise or motivational interviewing techniques **(C)**
- Educate all frontline professional staff regarding the risk spectrum of alcohol use, the incidence and prevalence of alcohol use, basic screening and referral for brief intervention approaches. **(B)**
- Educate health professionals about the special risks of alcohol use amongst elderly clients even at low-level consumption. (e.g., medication and alcohol interactions, falls, social support and mental health needs, etc.) **(B)**
- Educate health professionals that the safe use of alcohol is extremely complex and variable both across populations and for individuals and the consumption of alcohol for the purposes of reducing cardiovascular risk is **NOT** advised. **(C)**
- Educate health professionals about Canada's Low Risk Drinking Guidelines; **(A)**

2. Information:

- Provide the information and level of evidence between alcohol, cognition and dementia to IH Mental Health and Addictions staff and managers; **(C)**
- Provide positive individual health messaging that improved cognitive health is better gained through positive stress management (preventing alcohol misuse as a coping strategy), a healthier diet, increasing exercise, and stopping smoking, rather than starting to drink or drinking more. **(C)**
- Provide public information that the evidence of the relationship between alcohol and cardiovascular risk profiles requires further research.**(C)**
- Provide public information that unhealthy alcohol consumption is a common and serious physical, mental and social concern; **(C)**
- Provide public information that the safe use of alcohol is extremely complex and variable. The consumption of alcohol for the purposes of reducing cardiovascular risk is not advised. Individuals should seek medical advise for personal situations and individual risk factor determination. **(C)**

3. Program Planning:

- Incorporate alcohol and brain health evidence into planning and design of alcohol reduction programs and services **(A)**
- Commit to planning, funding and allocating resources and staff to identify and intervene in risky/harmful alcohol use by clients of all ages **(B)**
- Integrate specific information regarding seniors and alcohol use into program planning and designs. This is a special target population with unique needs.**(B)**
- Specifically target binge drinking across the life-course, e.g., mid-life, not just adolescence. **(A)**

4. Provision of Care:

- Implement screening and brief intervention for hazardous/risky/harmful alcohol use as part of routine practice. **(A)**

- All IH front line staff implement basic 3 step screening protocol and procedures to assess alcohol use as follows:
 1. Identify clients who drink alcohol from those that do not; **(A)**
 2. Among clients who are identified as alcohol drinkers, inquire about:
 - a. their usual quantity and frequency of drinking; **(A)**
 - b. maximum drinks per occasion in the past month; **(A)**
 - c. Utilize a validated screening instrument to assess for unhealthy alcohol use. **(A)**
 - d. It is suggested that tools such as CAGE (for alcohol disorders) and AUDIT screening instruments (to assess for the full range of at-risk to alcohol dependency drinking) could be used in routine screening. **(B)**
 - e. The ARPS (Alcohol Related Problem Survey) tool is recommended for older client populations to detect hazardous alcohol risk related to interaction with medications, aging physiology, etc., even at low consumption levels. **(B)**
 3. Complete (or refer) for a further in-depth assessment that includes specific alcohol problems and dependence. **(A)**

- Target binge drinking at all ages: screening and repeated short intervention. **(A)**

Clinical Tool Kit for Drinking and Brain Health

Canada's Low-Risk Drinking Guidelines. The Low-Risk Drinking Guidelines were developed by a team of medical and social researchers from the University of Toronto and the Centre for Addiction and Mental Health. They have been endorsed by many Canadian mental health and addictions agencies. Full information can be accessed at the following link:

http://www.camh.net/about_addiction_mental_health/low_risk_drinking_guidelines.html

Canadian Health Network: A federal website with information for seniors on drinking, medications, and health. Contains multiple safe links for patient teaching. Full information can be accessed at the following link: [http://www.canadian-health-network.ca/servlet/ContentServer?pagename=CHN-RCS/Page/SearchPageTemplate&c=Page&cid=1046357853421&searchStr=seniors%20and%20\(alcohol%20and%20not%20gambling\)&searchType=BOOLEAN&orderBy=ORDER_RANK&lang=En&reportGroupTopic=Seniors+QS&repType=seniors%20and%20\(alcohol%20and%20not%20gambling\)](http://www.canadian-health-network.ca/servlet/ContentServer?pagename=CHN-RCS/Page/SearchPageTemplate&c=Page&cid=1046357853421&searchStr=seniors%20and%20(alcohol%20and%20not%20gambling)&searchType=BOOLEAN&orderBy=ORDER_RANK&lang=En&reportGroupTopic=Seniors+QS&repType=seniors%20and%20(alcohol%20and%20not%20gambling))

The renewal of **Canada's Drug Strategy** in 2003 has placed fresh emphasis on substance abuse prevention and awareness activities, and has created new opportunities for improved coordination of those activities. The Canadian Centre on Substance Abuse believes that National Drug and Addictions Awareness Week is an initiative that merits the attention of all Canadians and this web page is intended to help that happen.

Canadian Centre for Substance Abuse: The Canadian Centre on Substance Abuse (CCSA) is Canada's national addictions agency. Our mission is to provide objective, evidence-based information and advice to help reduce the health, social and economic harm associated with substance abuse and addictions. More information on current statistics about alcohol use, current

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research and publications can be accessed at:
http://www.ccsa.ca/CCSA/EN/Research/Research_Publications/

Medication and Alcohol Interaction Toolkit

- For a senior friendly pamphlet on the common drugs prescribed for seniors and their potential for interacting with alcohol, see <http://www.agingincanada.ca/Seniors%20Alcohol/1f3.htm>
- An excellent primer on Alcohol-Medication Interactions for professionals can be found at: http://corp.aadac.com/content/corporate/alcohol/alcohol_medical_interaction_beyond_abcs.pdf

Screening Tests and Tools:

National Quick Reference Guide: An overview to the various screening tools available and where they can be used in care: <http://pubs.niaaa.nih.gov/publications/Assesing%20Alcohol/quickref.pdf>

National Institute on Alcohol Abuse and Alcoholism: As described above, worthy of mention again: <http://pubs.niaaa.nih.gov/publications/Practitioner/CliniciansGuide2005/guide.pdf>

Proceedings on identification and intervention of alcohol problems in emergency departments. http://www.cdc.gov/ncipc/pub-res/alcohol_proceedings/alcohol_proceedings.htm

General web-site resources for alcohol and seniors:

Information on alcohol and seniors can be accessed at Health Canada's website: http://www.hc-sc.gc.ca/dhp-mps/substan/alc-can/survey-sondage/index_e.html

Alcohol and Seniors: This website is dedicated to alcohol issues that affect seniors. It has been developed by Charmaine Spencer, Gerontology Research Centre, Simon Fraser University, Vancouver, B.C. Canada. The information in the site reflects gerontological and addiction research projects and endeavours from across Canada and internationally. You can access this useful site at: <http://www.agingincanada.ca/site.htm>

Charmaine Spencer is also a researcher whose work focuses on a range of "risk" and elder abuse issues in community and institutional settings. She is the Project Coordinator for Seeking Solutions, a national initiative around seniors and alcohol issues. Seeking Solutions is a cross-Canada initiative involving seniors' groups, addiction services, health and community agencies across Canada. Their goal is to raise knowledge levels, improve skills bases, foster positive attitudes and enhance resource/networking capacities of people who are in contact with seniors within their local communities so that they have a better understanding of alcohol related matters affecting seniors. Funding for this three year initiative has been provided by the National Population Health fund. Access to this website can be reached at: <http://www.agingincanada.ca/Seniors%20Alcohol/ss.htm>

Community Development: A Role for Everyone:
http://www.agingincanada.ca/A_Role_%20for%20Everyone.htm

6 Common Myths about Seniors and Alcohol Use:

http://www.agingincanada.ca/Seniors%20Alcohol/bp_misconcept.htm

A cross Canada look at alcohol use and seniors:

<http://www.agingincanada.ca/Cross%20Canada%20Look%20At%20Helping%20Seniors%20With%20Alcohol.pdf>

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