



ALCOHOL AND HEALTH

LOW-RISK DRINKING: 2 • 3 • 4 • 0



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INTRODUCTION

Alcohol is a normal part of life for most of us, and fortunately, it is generally not problematic. In Quebec in particular, moderation has become both socially integrated and culturally acceptable.

According to the latest surveys, Quebecers have a pretty good idea of what constitutes moderate drinking. A 2007 Éduc'alcool-CROP poll found that, on average, people believe moderation to be 2.4 drinks per occasion. About 25% of respondents thought moderation was one drink, while another 25% said it was two drinks. Twenty percent believe that three drinks constitute moderation, but more than 15% said it all depends on the circumstances. Fewer than 5% said moderation was five drinks.

Nonetheless, Quebecers have a thirst for knowledge. In the above-mentioned survey, seven out of ten people said they wanted to know more about how much alcohol they can drink without endangering their health. Given all the studies constantly being done on the effects – both positive and negative – of alcohol, it's not surprising that so many people seek guidelines for low-risk drinking.

Like all the publications in the Alcohol and Health series, this one offers advice to those who want to make enlightened decisions about drinking.

Our purpose is to give Quebecers who choose to drink some general but very clear guidelines on the subject.

In other words, we hope to further convince them – if they still need convincing – that moderation is always in good taste.

The Éduc'alcool Board of Directors



LOW-RISK DRINKING

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A committee of experts appointed by the National Alcohol Strategy Advisory Committee has come up with specific guidelines for low-risk drinking.¹ Éduc'alcool's senior researcher was a member of this committee, which comprised top-level scientists from four agencies in as many provinces that were also issuing guidelines for the public.

The guidelines agreed upon by the committee have been reviewed by three peer examiners from three different continents. Each one has a unique point of view and specialized expertise in epidemiology, prevention and alcohol policy. The guidelines have been endorsed by an impressive number of public and private agencies and are now the accepted reference across the country.

Éduc'alcool's position is based on conclusive data and the committee's guidelines. If all Canadians drank in accordance with the proposed guidelines, it is estimated that there would be approximately 4,600 fewer alcohol-related deaths every year.

Éduc'alcool's excellent and trusted reputation in Quebec makes it the ideal organization to propose drinking guidelines. In fact, our publications on alcohol and health are widely recognized for their expertise and serious approach, as is our contribution to the work of the expert committee.

Éduc'alcool has been studying drinking habits in Quebec for more than 20 years. We have a sensitive finger on the pulse of the culture and the role alcohol plays in people's lives. All our publications on drinking are based on scientific research. More than 90% of Quebecers think the organization has high credibility and they willingly turn to us when they have questions about alcohol and drinking.



WHY ARE THE DRINKING LIMITS DIFFERENT FOR MEN AND WOMEN?

The limits are different because research shows that alcohol puts women at greater risk for certain alcohol-related illnesses than men (e.g., breast cancer, stroke, diabetes, high blood pressure, liver disease). For example, when a woman has an average of one drink per day, it is estimated that her risk of getting liver cirrhosis increases by 139%, compared to 26% for a man. Additionally, the risk of stroke for women is at least double the risk for men when the limits in the guidelines are exceeded.

These gender differences occur for several reasons. On average, women weigh less than men, and smaller people reach higher blood-alcohol levels than larger people. In addition, kilogram for kilogram, women have less water in their bodies than men do, so even if a woman and a man of the same weight drink an equal amount of alcohol, the woman's blood-alcohol concentration will be higher. Finally, women have fewer alcohol-metabolizing enzymes and they digest alcohol in their stomachs differently than men.

The guidelines are a starting place for drinkers to assess their individual drinking practices.

¹ Butt, P., Beirness, D., Cesa, F., Gliksman, L., Paradis, C., and T. Stockwell (in press). Alcohol and Health in Canada : A Summary of Evidence and Guidelines for Low-Risk Drinking. Ottawa, ON: Canadian Centre on Substance Abuse.

RECOMMENDED NUMBER OF DRINKS: 2 • 3 • 4 • 0

What is a standard drink?

- **Beer:** 341 ml (12 oz), 5% alcohol
- **Wine:** 142 ml (5 oz), 12% alcohol
- **Fortified wine or malt liquor:** 85 ml (3 oz), 20% alcohol
- **Spirits:** 43 ml (1.5 oz), 40% alcohol
- **Cider and premixed drinks:** See bottle labels for alcohol content, which can vary from 2.5% to 20%.



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The recommended number of drinks – 2, 3, 4 or 0 – varies primarily according to sex.

- 2** Women who want to drink moderately should have no more than **2** drinks a day or **10** drinks a week.
- 3** Men who want to drink moderately should have no more than **3** drinks a day or **15** drinks a week.
- 3** To avoid intoxication and the associated complications, women should have no more than **3** drinks on a single occasion.
- 4** Men who wish to avoid intoxication and the associated complications should have no more than **4** drinks on a single occasion.
- 0** To avoid any kind of habituation or dependency, it is recommended that everyone – men and women – choose **not to drink at all** at least one or two days a week.
- 0** It is inappropriate to drink alcohol under certain circumstances, such as:
 - When you have important decisions to make
 - When you are engaged in dangerous physical activity
 - When you are operating a motor vehicle, machinery, or mechanical or electrical equipment
 - When you are responsible for the safety of others
 - When you take medication that is affected by alcohol
 - When you have mental or physical health problems
 - When you have a problem with alcohol dependence
- 0** While the risks of light drinking during pregnancy are considered minimal, no safe limit has been established. Therefore, if you are pregnant or trying to become pregnant, it is recommended that you do not drink at all. Nursing mothers should not drink before nursing.

Young people and alcohol

Early alcohol use can affect the physical and mental development of young people, which is why it is best to delay the start of drinking as long as possible. When teens do begin drinking, they should do so under parental supervision and have no more than 2 drinks at a time, no more than twice a week.

Health benefits

While alcohol may be of some benefit to post-menopausal women and men over the age of 40, no one should drink for that reason alone.



Tips

- Set limits for yourself and stick to them.
- Drink slowly. Have no more than 2 drinks in any three-hour period.
- Alternate with non-alcoholic drinks.
- Eat before and while you are drinking.
- Plan to drink in a safe environment.
- Know your local laws.

INDIVIDUAL VULNERABILITY

These recommendations are intended for the general public. However, as the research shows with increasingly clarity, when it comes to alcohol, we are not all born equal.

The effects of alcohol can vary greatly from one person to the next, which means that these guidelines are not necessarily good for everyone.

Genetic heritage, weight and age are among the important factors we must all consider when figuring out what “moderate drinking” means for us.

GENETICS

Some genes – located in specific areas of the chromosomes – play an important role in determining how much alcohol it takes for a person to feel the effects. Recent studies show that as much as 50% of the risk of alcohol dependence is determined by genetic factors.²

Slow response to alcohol. People who need a large quantity of alcohol in order to feel the effects are at greater risk of developing a dependence. Men and women who tend not to feel drunk should therefore pay closer attention and refrain from unlimited drinking.

Quick response to alcohol. Some people have to be careful for the opposite reason. These are the drinkers who feel drunk and lose control over their bodies sooner than the average person.³

It is not uncommon for such people to have a family member with a serious drinking problem.

Like those who are slow to respond to alcohol, people who are quick to respond must be more careful than the average drinker. They should drink less than the amount recommended here in order to avoid social gaffes and accidents.

WEIGHT

Our recommendations are for men and women of average weight and height. But we know that blood alcohol level is basically the amount of alcohol you absorb divided by the amount of water present in your body. Thus, the less water you have in your body, the higher your blood alcohol level will be.

People whose weight is below average and those with a high percentage of body fat must be very careful and drink less than the low-risk recommendations for the average person.

Low body weight. If your weight is below average, your body will also have a lower-than-average water content, which means that, all other things being equal, you will have a higher blood alcohol level than the average person who drinks the same amount. If this sounds like you, be careful!

High body fat. The same warning applies if you have a higher-than-average body fat percentage. Given two people who weigh the same, where one is well muscled and the other is overweight with a high body fat percentage, the one with the high body fat will feel the effects of alcohol more than the one with all the muscle. That's because fatty tissue does not contain much water.



² Edenberg and Foroud, 2006; Grucza and Bierut, 2006; Schuckit, 2005.

³ Duranceaux et al., 2006.



CIRCUMSTANTIAL VULNERABILITY

AGE

Young adults. The low-risk drinking guidelines are designed for adults. Teens who wish to drink should be careful and drink less than the recommended amounts.

In fact, teenagers can't handle alcohol as well as adults. They often weigh less and have less water in their bodies to dilute the alcohol.

Also, compared to adults, young people have fewer of the enzymes that help the liver eliminate alcohol.

Furthermore, the adolescent brain is more vulnerable to damage by alcohol. Recent studies in neuroscience⁴ and child psychiatry show that the brain is not really fully developed until after the age of 20. Teens are therefore at greater risk when they drink because alcohol inhibits the development of some parts of the brain.

Older people. As people age, their kidneys, liver, cardiovascular system and brain undergo changes. Some of these changes make the elimination of alcohol less efficient, while others make people more sensitive to the effects of alcohol.

Older people tend to have a higher body fat percentage than younger adults and less water in their bodies. An older person will therefore have a higher blood alcohol level than a younger person who drinks the same amount.

Also, because of their increased physiological vulnerability and the fact that many of them take prescription drugs (see *Medication*), some older people should drink less than the low-risk guidelines for the general adult population.

MEDICATION

The low-risk drinking guidelines may not be valid for someone who is taking medication. People on medication should be extra cautious and check with their doctor or pharmacist to see whether alcohol is contraindicated.

When taken in combination with certain medications, particularly those commonly prescribed for epilepsy, high blood pressure and the common cold, alcohol can cause dizziness and drowsiness.

Mixing alcohol with medication for rheumatism, arthritis, pain, infection and depression can cause serious physical and psychological problems.⁵

Alcohol can also increase the sedative effect of benzodiazepines and other drugs, increasing the danger of falling.⁶

HUNGER, FATIGUE AND STRESS

When you are very hungry, tired or stressed, you should drink less than is recommended in the guidelines.

When you are hungry, your stomach is empty, so any alcohol you drink will be absorbed by the blood much more quickly. Consequently, you will feel the effects of the alcohol sooner and more intensely.

The same warning applies when you are very tired. Fatigue is a sign that your energy supplies are low, which means your liver will not eliminate alcohol as efficiently. The blood alcohol level of a tired person will be higher than that of a well rested person who drinks the same amount. Many symptoms of fatigue are similar to those of intoxication, and drinking will simply make them worse.

And since alcohol is a depressant, its negative effects will be felt more intensely by people who are stressed or depressed.

⁴ Crews et al, 2007.

⁵ Wesson, 1992.

⁶ Herring, 1995.



OFFICIAL STANDARDS AND HOW MUCH YOU DRINK

The drinking guidelines proposed here have been established based on the standard drink. If you want to follow the guidelines and drink reasonably, you should make sure you know what a standard drink is in every form (beer, wine, cider, spirits, fortified wines, malt-based beverages and pre-mixed drinks, e.g. coolers).

Pay close attention to how much is poured – by you or anyone serving you – and know the alcohol content of what you're drinking.

Studies show that many people, especially young people and women, underestimate the amount they drink because they do not know what constitutes a standard drink.⁷

There has also been a recent trend among wine-makers to increase the alcohol content of certain wines. Read all labels carefully and adjust your intake accordingly.

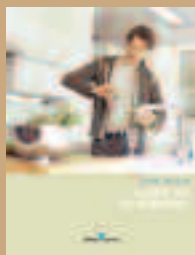
And remember that most people who drink spirits tend to have drinks containing more than the standard amount.⁸

⁷ Lemmens, 1994; Kerr et al., 2005; White et al., 2005.

⁸ Gill, 2004; Lemmens, 1994.

IN THE SAME COLLECTION

The reports in Éduc'alcool's *Alcohol and Health* series are well-researched and easy to read. Each one gets straight to the point and is a valuable health, education and information resource. All of them may be downloaded or ordered from the Éduc'alcool website www.educalcool.qc.ca.



ALCOHOL AND THE HUMAN BODY

An explanation of what happens to alcohol as it passes through the body and the effects it produces.



ALCOHOL COMBINATIONS

A brochure explaining the beneficial, harmful and downright dangerous effects of combining alcohol with various other substances or activities.



THE EFFECTS OF MODERATE AND REGULAR ALCOHOL CONSUMPTION

A review of the research on how moderate, regular alcohol consumption affects human health.



THE EFFECTS OF EARLY ALCOHOL USE

A brochure that examines the harmful effects of early alcohol use and explains the basic reasons why young people should not have unrestricted access to alcohol.



ALCOHOL AND SENIORS

A description of the effects of alcohol on people 65 and older. Includes valuable advice for seniors, their families, friends and caregivers.



ALCOHOL AND MENTAL HEALTH

Monograph on the effects of alcohol on mental health. Explains the connections and interactions between mental health disorders and problem drinking and provides useful information and advice.



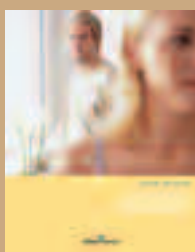
PREGNANCY AND DRINKING: YOUR QUESTIONS ANSWERED

Straightforward answers to frequently asked questions about drinking during pregnancy and breast-feeding, for pregnant woman and those who might become pregnant.



ALCOHOL HANGOVER

Abusive drinking has long-lasting effects even when blood alcohol content is back to zero.



THE EFFECTS OF ABUSIVE DRINKING

A review of the physiological and psychological effects of abusive drinking. The consequences of both chronic and occasional excessive drinking are highlighted.

ABOUT ÉDUC'ALCOOL

Éduc'alcool is an independent, not-for-profit organization whose sole mission is to improve the relationship between Quebecers and alcohol. To that end, we develop prevention, education and information programs to help young people and adults make responsible, enlightened decisions about drinking. The Éduc'alcool slogan summarizes our commitment: Moderation is always in good taste.

Éduc'alcool would like to thank Catherine Paradis, Ph.D., Senior Researcher for Éduc'alcool and research professional at Concordia University's Lifestyle and Addiction Research Laboratory, for her rigorous approach and admirable effort in simplifying the data.



Moderation is always in good taste.

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