

## Heavy Alcohol Drinking and Holiday Heart Syndrome

### Key Messages

- ※ Indulgence in alcohol comes with risks to health. Holiday Heart Syndrome is associated with excessive alcohol consumption on holiday season.
- ※ Among people with Holiday Heart Syndrome, the most frequently occurred type of arrhythmia is atrial fibrillation. Studies showed that the risk of incident atrial fibrillation could increase at low level of alcohol consumption across common types of alcoholic beverages (including beer, wine and spirits).
- ※ Members of the public are urged to celebrate the Christmas and New Year holidays in a healthier way by refraining from alcohol drinking. For those who choose to drink alcohol, they should make mindful beverage choices and stay alert to avoid drinking too much alcohol.
- ※ Some people should not drink alcohol at all, including children and adolescents; those who plan to drive after the parties; women who are pregnant, planning to get pregnant; those who have certain medical conditions (such as liver disease, hypertension and heart disease) or are taking medications.
- ※ For more information about alcohol and health risk, please visit [www.change4health.gov.hk/en/alcohol\\_aware/index.html](http://www.change4health.gov.hk/en/alcohol_aware/index.html).

# Heavy Alcohol Drinking and Holiday Heart Syndrome

Christmas and New Year is the holiday season of parties filled with festive treats and drinks. However, indulgence in alcohol comes with risks to health. One heart condition associated with excessive alcohol consumption on holiday season is arrhythmia (problem with the rate or rhythm of the heartbeat), or popularly known as Holiday Heart Syndrome which can occur in heavy drinkers as well as binge drinkers who have no obvious heart problem<sup>1, 2</sup>. While most cases of Holiday Heart Syndrome are reversible and usually resolved in a period of time once consumption of alcohol is stopped, abnormal heart beats can last longer in some cases and accompany with shortness of breath, chest discomfort or dizziness. If the condition persists and is left untreated, it may result in serious complications including myocardial infarction, heart failure and stroke<sup>3, 4</sup>. Arrhythmia associated with binge drinking (i.e. consuming large amounts of alcohol in a short time period) can even trigger sudden death<sup>2</sup>.

## Association of Alcohol Drinking and Atrial Fibrillation

Among people with Holiday Heart Syndrome, the most frequently seen arrhythmia is atrial fibrillation<sup>1, 2</sup>. Although the exact mechanism is not completely understood<sup>5</sup>, alcohol is a known toxic and cancer-causing substance with direct and indirect effects on various body

organs and systems<sup>6, 7</sup>, including the heart and likely contributing to irregular heartbeats. Alcohol drinking can damage heart cells and influence the nerve signal transmission across the heart muscle<sup>2, 8</sup>. Acetaldehyde, the main metabolite of alcohol in the body, can also increase the rate of abnormal heart muscle contraction<sup>2, 8</sup>. Furthermore, alcohol has a diuretic effect, potentially causing electrolyte disturbances and triggering irregular heartbeats<sup>8</sup>.

Extensive observational evidences indicate that alcohol consumption can trigger atrial fibrillation symptoms. The higher the level of alcohol consumption, the greater the risk of atrial fibrillation<sup>5, 8</sup>. Compared with non-drinkers, a meta-analysis of 7 prospective studies reported that current drinkers of 1 drink (12 grams alcohol) per day would have 8% increased risk of atrial fibrillation. The corresponding risks increased to 17%, 26%, 36% and 47% for 2, 3, 4 and 5 drinks per day<sup>9</sup>. In addition, a large community-based pooled cohort study with over 107 000 Europeans observed that the risk of incident atrial fibrillation could increase at very low level of alcohol consumption (i.e. less than 1 drink per day) across common types of alcoholic beverages (including beer, wine and spirits)<sup>10, 11</sup>.

Of note, some studies indicated that Asians (including Koreans and Chinese) tend to have lower alcohol metabolism (due to an inherited deficiency in an enzyme involved in the breakdown of alcohol) with a greater risk for alcohol-related harms than Caucasians<sup>12, 13</sup>. A cohort study including over 1.5 million young adults aged 20 to 39 years in South Korea found that the risk of atrial fibrillation was higher by 25% in those who maintained moderate-to-heavy alcohol drinking (greater or equal to 105 grams of alcohol per week) for 4 years, compared with individuals who sustained non-to-mild drinking for 4 years<sup>14</sup>.

## Festive Celebrations without Hurting the Heart

The holiday seasons should be filled with merriment. However, a Swedish study observed that the risks of heart attack were 20–37% higher on Christmas Eve, Christmas and New Year's Day that could be due to the effects of excessive alcohol consumption and among other factors such as overeating or sleep deprivation<sup>15</sup>. Besides, alcohol decreases individuals' inhibitions and impairs judgement that may lead to reckless decisions or drunken acts, such as drunk driving, getting into a fight or other disorderly conducts — the exact opposites of the festive spirits.

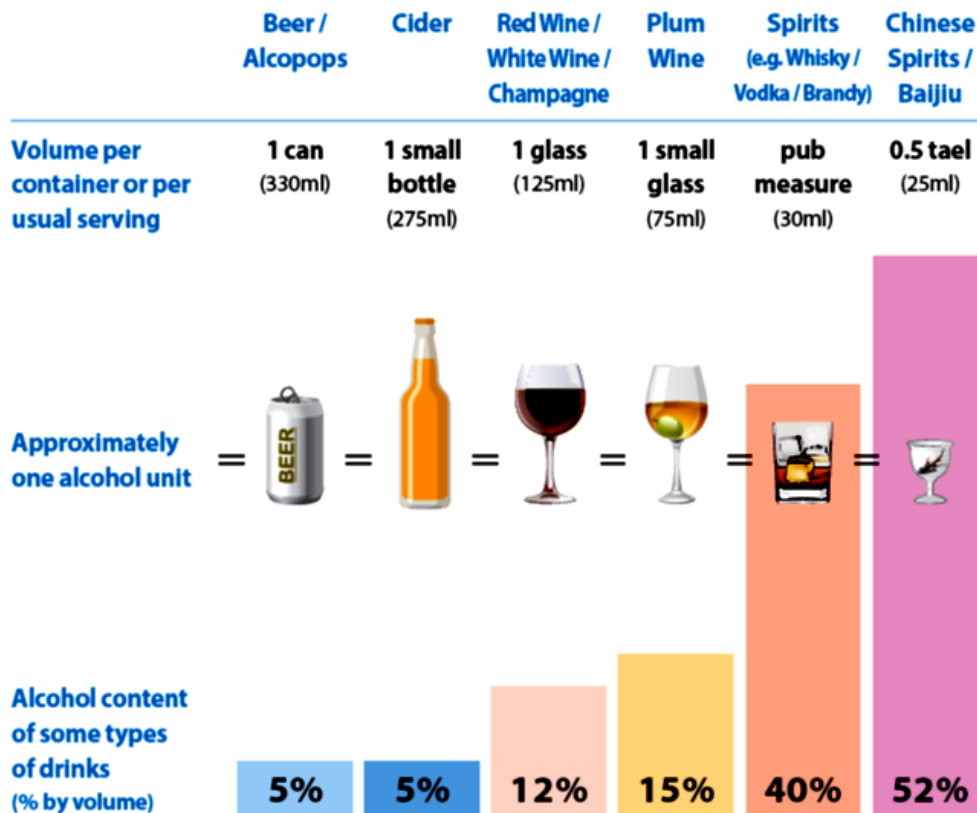
In fact, people can still have a great time without alcohol. Party hosts can provide a variety of non-alcoholic beverages, such as sparkling mineral water, alcohol-free punches, soda water with

slices of lime or lemon, fresh fruit juice or light floral fruit tea, etc. Similarly, there is no rule that party-goers have to drink alcohol. When offered a drink, they can simply say “No”, or give a reason or an excuse for not drinking (such as “I have something to do tomorrow”, “I am cutting down on alcohol” or “I don't like the taste of alcohol”). To avoid the “where's your drink?” question, non-drinkers can carry around a cup of non-alcoholic beverage. Those who choose to drink alcohol should stay alert to avoid drinking too much. In general, men should not drink more than two alcohol units (i.e. 20 grams of alcohol) a day and women should not drink more than one alcohol unit (i.e. 10 grams of alcohol) a day<sup>16</sup>. They are also urged to know the alcohol content of the drinks (Box 1) and choose drinks with lower alcohol content; eat before or while they drink, and do it slowly in sips rather than gulp; start with non-alcoholic drinks and alternate alcoholic drinks with non-alcoholic ones; and avoid “bottom up” when toasting; avoid rounds, top-ups and refills<sup>17</sup>. Of note, alcoholic beverages usually have a high calorie count. Extra calorie intake from alcohol drinking can increase body weight. According to the World Health Organization<sup>17</sup>, there are about 140 kcal in a 330 milliliter (ml) can/small bottle of beer with 5% alcohol by volume (ABV). This value is about the calorie content of 7 sugar cubes. A 175 ml glass of red wine with 13% ABV can contain approximately 160 kcal and this calorie content is equivalent to about 8 sugar cubes.

Most important of all is that some people should not drink alcohol at all, such as children and adolescents; those who plan to drive after the parties; women who are pregnant, planning to get pregnant; those who have certain medical conditions (such as liver disease, hypertension and heart disease) or are taking medications<sup>18</sup>. For more information about alcohol and health risk, please visit [www.change4health.gov.hk/en/alcohol\\_aware/index.html](http://www.change4health.gov.hk/en/alcohol_aware/index.html).

In addition to avoiding alcohol and making mindful beverage choices during the holiday season, members of the public are urged to eat according to the principle of healthy eating with a wide variety of foods in the right proportions and limit foods high in fat, salt and sugar<sup>19</sup>. To increase energy expenditure, members of the public are also urged to reduce sedentary time, walk more and increase physical activity. Let's celebrate the Christmas and New Year holidays in a healthier way!

**Box 1: The amount served and alcohol content of some common alcoholic beverages that is approximately equivalent to ONE “alcohol unit”<sup>20</sup>**



Note: An alcohol unit, which is a common measure of alcohol content, is equal to 10 grams of alcohol. The number of “alcohol unit” of different brands and types of alcoholic beverages can vary a lot.

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## Potential Health Risk of Alcohol Consumption

To raise public awareness on the potential health risk of alcohol consumption and facilitate members of the public to make an informed choice for better health, the Department of Health (DH) has produced two new Announcements in the Public Interests (APIs) — “Alcohol and Cancer” and “Alcohol and Calories”. To view the APIs, please visit the below designated websites.

### Alcohol and Cancer



According to the International Agency for Research on Cancer of the World Health Organization, alcohol has been classified as a Group 1 carcinogen (cancer-causing agent), the same category as tobacco smoke. There has been sufficient evidence in humans that the consumption of alcoholic beverages increases the risk of some types of cancer, including cancers of the oral cavity, pharynx, larynx, oesophagus, liver, colorectum and female breasts. When it comes to cancer risks, there is no safe level for drinking alcoholic beverages. The more alcohol you drink, the higher your risk of cancer.

Website:

<https://youtu.be/MeBWCve2J94>

### Alcohol and Calories



Alcoholic beverages usually have a high calorie count. According to the World Health Organization, a can/small bottle of common beer (330 ml, 5% alcohol by volume) can contain approximately 140 kcal. This value is about the calorie content of 7 sugar cubes. A glass of red wine (175ml, 13% alcohol by volume) can contain approximately 160 kcal. This value is about the calorie content of 8 sugar cubes. Alcohol drinking is a source of extra calorie intake. Extra calorie intake can increase body weight.

Website:

[https://youtu.be/BhzQzzQ\\_K88](https://youtu.be/BhzQzzQ_K88)

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