The Canadian Cancer Society’s perspective on alcohol and the evidence supporting it

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Cancer and Alcohol: Myths, Evidence, Action & Precautionary Policies Forum
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Overview

1. Evidence on alcohol and its link to cancer
2. Patterns and trends in alcohol use in Canada
3. Epidemiology of cancer-related cancers in Canada
4. Public perception of alcohol and its relation to cancer
5. The Society’s recommendation on alcohol
1 Alcohol and cancer

- Alcohol is carcinogenic to humans (IARC Group 1)
- Alcohol use is one of the top three leading risk factors for cancer death worldwide
- Cancer risk increases in a dose-dependent manner; no safe level of drinking with regard to cancer
- Cancer risk of alcohol is independent of other factors such as smoking, physical activity, diet, BMI and education
- Drinking any type of alcohol raises cancer risk
- Intensity and duration of drinking impacts different cancer types in different ways
- Risk of cancer declines once drinking stops
Alcohol and cancer (cont’d)

<table>
<thead>
<tr>
<th>Cancer type</th>
<th>RR (with 50g intake per day – approx. 4 drinks)</th>
<th>RR (with &lt;50g of intake per day – light or moderate drinking approx. 1-3 drinks per day)</th>
<th>IARC classification(^1)</th>
<th>WCRF/AICR classification(^2)</th>
<th>PAF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral cavity</td>
<td>2-3</td>
<td>1.17-1.64</td>
<td>Group 1</td>
<td>Convincing</td>
<td>27-41%</td>
</tr>
<tr>
<td>Pharynx</td>
<td>2-3</td>
<td>1.23-1.66</td>
<td>Group 1</td>
<td>Convincing</td>
<td>27-41%</td>
</tr>
<tr>
<td>Larynx</td>
<td>2-3</td>
<td>1.17-1.94</td>
<td>Group 1</td>
<td>Convincing</td>
<td>27-41%</td>
</tr>
<tr>
<td>Esophagus</td>
<td>2-3</td>
<td>1.16-1.51</td>
<td>Group 1</td>
<td>Convincing</td>
<td>34-51%</td>
</tr>
<tr>
<td>Breast (female)</td>
<td>1.5</td>
<td>1.03-1.67</td>
<td>Group 1</td>
<td>Convincing</td>
<td>11-22%</td>
</tr>
<tr>
<td>Colorectal</td>
<td>1.4</td>
<td>1.01-1.21</td>
<td>Group 1</td>
<td>Convincing (men)</td>
<td>5-7%</td>
</tr>
<tr>
<td>Liver (hepatocellular carcinoma)</td>
<td>Cannot quantify</td>
<td>Cannot quantify</td>
<td>Group 1</td>
<td>Probable (women)</td>
<td>15-17%</td>
</tr>
</tbody>
</table>

RR=relative risk; IARC=International Agency for Research on Cancer; AICR=American Institute for Cancer Research; WCRF=World Cancer Research Fund; PAF=population attributable fraction

References:
Alcohol and cancer (cont’d)

- Tobacco and alcohol:
  - Drinking alcohol together with smoking tobacco increases the risk more than either one alone for oral cavity, pharynx, larynx, esophagus

- Hepatitis B and C infection:
  - Drinking alcohol increases the risk of liver cancer compared to having hepatitis alone

- Prenatal exposure and childhood cancer
  - Some research suggests maternal alcohol consumption during pregnancy associated with increased risk of acute myeloid leukemia (AML) and neuroblastoma in children
  - More research needed
Alcohol and cancer (cont’d)

- All types of alcohol raise your risk of cancer.
- The amount of ethanol in a standard drink ranges from 10 to 14 grams.

<table>
<thead>
<tr>
<th>Frequency of drinking</th>
<th>Cancer type</th>
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<tbody>
<tr>
<td>Light (&lt; = 1 drink/day)</td>
<td>Breast (female), oral, pharynx, esophagus</td>
</tr>
<tr>
<td>Moderate (2-3 drinks/day)</td>
<td>Breast (female), oral, pharynx, esophagus, larynx, colorectal</td>
</tr>
<tr>
<td>Heavy (&gt; = 4 drinks/day)</td>
<td>Breast (female), oral, pharynx, esophagus, larynx, colorectal, liver</td>
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</tbody>
</table>
Patterns and trends in alcohol use in Canada

Percentage of drinkers past 12 months, by sex, Canada, 2012

- Men: 82.7%
- Women: 74.4%


Percentage of drinkers by frequency of drinking, past 12 months, both sexes, Canada, 2010*

- Light, infrequent (≤once per week and <5 drinks per occasion): 35.7%
- Light, frequent (≥ once per week and <5 drinks per occasion): 32.2%
- Heavy, infrequent (<once per week and ≥5 drinks per occasion): 4.6%
- Heavy, frequent (>once per week and ≥5 drinks per occasion): 4.3%

*24.5% were never or former drinkers (i.e. did not drink in the past year)

Patterns and trends (cont’d)

Trends in light and heavy drinking, Canada, 2004-2010

Epidemiology of alcohol-related cancers


Source: Canadian Cancer Registry, 2012
Epidemiology (cont’d)


Estimated number of alcohol-related cancers in 2013 in Canada in both sexes:

- Breast (female): 2600 - 4700
- Colorectal: 1200 - 1700
- Oral (incl. pharynx): 1100 - 1700
- Esophagus: 700 - 1000
- Larynx: 300 - 400
- Liver: 300 - 400

6200 – 9900 cases

Source: Canadian Cancer Registry; analysis by Public Health Agency of Canada
4 Public awareness of alcohol as a risk for cancer

- Most Canadians unaware that they can lower their cancer risk by limiting their consumption of alcohol
  - 2/3 of Canadians do not think that drinking alcohol is linked to cancer

<table>
<thead>
<tr>
<th>Country of survey</th>
<th>Year</th>
<th>Respondents aware of risk</th>
<th>Other findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canada¹</td>
<td>2008</td>
<td>33%</td>
<td>• more likely to see drinking alcohol as a risk factor for heart disease and diabetes (53% and 45%, respectively).</td>
</tr>
<tr>
<td>Ireland²</td>
<td>2012</td>
<td>42%</td>
<td>• 63% were misinformed that some types of alcoholic drinks are more dangerous than others</td>
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<td></td>
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<td></td>
<td>• 39% are misinformed that red wine is protective and it appears this message has been mixed up with the benefits for heart disease</td>
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<tr>
<td>European Union³</td>
<td>2009</td>
<td>67% (36% totally agree, 31% tend to agree that alcohol causes cancer)</td>
<td></td>
</tr>
<tr>
<td>Australia⁴</td>
<td>2013</td>
<td>48%</td>
<td>• Women are more likely than men to believe that alcohol causes cancer (51% compared to 46%), breast cancer cases (21% compared to 16%)</td>
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<td></td>
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<td></td>
<td>• Men more likely than women (28 vs 22%) to believe that pregnant women can safely drink small amounts of alcohol</td>
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<td></td>
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<td></td>
<td>• Gen Y (53%) are more likely than Gen X (45%) and baby boomers (45%) to believe that alcohol causes cancer</td>
</tr>
</tbody>
</table>

Note: different methods were used for the various surveys, so results should be compared with caution

¹ Canadian Partnership Against Cancer. Alcohol use and cancer in Canada; Cancer Control Snapshot 5, 2011.
² Cancer Research and the Irish Cancer Society, 2012
⁴ Foundation for Alcohol Research and Education. Annual Alcohol Poll: Attitudes and Behaviours, 2013.
Reduce your risk if you choose to drink alcohol:

- **Limit the amount you drink:**
  - Women: <1 drink/day
  - Men: <2 drinks/day

- **Pregnant women should not drink**

- **Be a non-smoker:** Tobacco and alcohol together are worse for you than either one on its own.

- Tips to reduce drinking at cancer.ca
Recommendations: Society vs other organizations

- **Canadian Centre for Substance Abuse**
  Canada’s Low-Risk Drinking Guidelines
  - Reduce your long-term health risks by:
    - **Women:** no more than 2 drinks a day most days (up to 10 drinks a week)
    - **Men:** no more than 3 drinks a day most days (up to 15 drinks a week)
### Recommendations: Society vs other organizations (cont’d)

<table>
<thead>
<tr>
<th>Organization</th>
<th>Recommendation</th>
<th>Other supporting statements or perspective</th>
</tr>
</thead>
<tbody>
<tr>
<td>WCRF/AICR(^1)</td>
<td>• If consumed at all, alcoholic drinks should be limited to:</td>
<td>• For cancer prevention, we recommend not drinking alcohol at all.</td>
</tr>
<tr>
<td></td>
<td><strong>2 drinks for men and 1 for women a day.</strong></td>
<td></td>
</tr>
<tr>
<td>American Cancer Society(^2)</td>
<td>• Limit intake to:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>no more than 2 drinks per day for men and 1 drink a day for women.</td>
<td></td>
</tr>
<tr>
<td>Cancer Council Australia(^3)</td>
<td>Limit consumption of alcohol, or better still avoid alcohol altogether. For healthy men and women:</td>
<td>• consumption should occur within the Australian National Health and Medical Research Council (NHMRC) guidelines.</td>
</tr>
<tr>
<td></td>
<td><strong>no more than 2 standard drinks on any day reduces the lifetime risk of harm from alcohol-related disease or injury.</strong></td>
<td>• The lifetime risk of harm from drinking alcohol increases with the amount consumed.</td>
</tr>
<tr>
<td>Cancer Research UK(^4)</td>
<td>Stick with the guideline amounts which are around:</td>
<td>• as the amount of alcohol increases, so does the risk. Some drinks may contain more alcohol than you think.</td>
</tr>
<tr>
<td></td>
<td><strong>1 standard drink a day for women</strong> [e.g. a glass (175ml) of wine or a pint of beer or cider]</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>2 standard drinks a day for men</strong> [e.g. 2 glasses (175ml) of wine or 2 pints of beer or cider]</td>
<td></td>
</tr>
<tr>
<td>European Code Against Cancer(^5)</td>
<td>Moderate your consumption to:</td>
<td>• The limit should not exceed between 20g of ethanol per day (i.e. approximately two drinks of either beer, wine or spirit each day) and it should be as low as 10g per day for women.</td>
</tr>
<tr>
<td></td>
<td><strong>2 drinks per day (men)</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>1 drink per day (women)</strong></td>
<td></td>
</tr>
</tbody>
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Summary and conclusions

• Evidence shows that alcohol use increases risk of specific types of cancer, regardless of type of alcohol or amount consumed.

• The more you drink, the higher the risk of certain cancers.

• Survey data suggest 1/3 of Canadians are light-infrequent or light-frequent drinkers. Coincidentally, only 1/3 of Canadians are aware that alcohol causes cancer.

• The Society recommends that if you choose to drink alcohol, limit it to <1 drink/day for women and <2 drinks/day for men, and don’t smoke.

• The Society’s recommendations are in-line with international recommendations.
Thank you!

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