

# Alcohol Use and Cancer

Most people know that heavy alcohol use can cause health problems. But many people may not be aware that alcohol use can increase their cancer risk. The following is from the website of the *American Cancer Society*:

## Types of cancer linked to alcohol use

Alcohol use has been linked to increased risk of several types of cancer, including cancers of the:

- mouth
- throat (pharynx)
- voice box (larynx)
- esophagus
- liver
- breast (in women)
- colon and rectum

For each of these cancers, the risk increases with the amount of alcohol consumed.

**Cancers of the mouth, throat, voice box, and esophagus:** Alcohol use clearly raises the risk of these cancers. The combined use of alcohol and tobacco increases the risk of these cancers far more than the effects of either drinking or smoking alone. This may be because alcohol can act as a solvent, helping harmful chemicals in tobacco to get into the cells lining the digestive tract. Alcohol may also slow down these cells' ability to repair DNA damage caused by chemicals in tobacco.

**Liver cancer:** Long-term alcohol use has been linked to an increased risk of liver cancer. Regular, heavy alcohol use can damage the liver, leading to inflammation. This, in turn, may raise the risk of liver cancer.

**Breast cancer:** Regular consumption of even a few drinks per week is associated

with an increased risk of breast cancer in women. This risk may be especially high in women who do not get enough folate in their diet or through supplements. Alcohol can affect estrogen levels in the body, which may explain some of the increased risk. Reducing alcohol intake may be an important way for many women to lower their risk of breast cancer.

**Colorectal cancer:** Alcohol use has been linked with a higher risk of cancers of the colon and rectum. The evidence for such a link is generally stronger in men than in women, although studies have found the link in both sexes.



## Does the type of drink matter?

Ethanol is the type of alcohol found in alcoholic beverages, whether they are beers, wines, or liquors (distilled spirits). These drinks contain different percentages of ethanol, but in general a standard size drink of any type – 12 ounces of beer, 5 ounces of wine, or 1.5 ounces of liquor – contains about the same amount of ethanol (about half an ounce). Of course, larger or 'stronger' drinks may contain more ethanol than this.

Overall, the amount of alcohol consumed over time, not the type of alcoholic beverage, seems to be the most important factor in raising cancer risk. Most evidence suggests that it is the ethanol itself that is responsible for the increased risk.

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# ALCOHOL and COOKING



**Some Myths Dispelled  
and  
Some Sane Alternatives  
to  
Alcoholic Recipes**

## Does Alcohol Really Boil Away in Cooking?

Many people incorrectly believe that alcohol "cooks off" when heat is applied. The conventional wisdom accepted by just about everyone in the food world is that all the alcohol you add to a dish evaporates or dissipates during cooking.

Two dozen major cookbooks we investigated did not address the issue at all. Several stated that the alcohol burns off, but none indicated how quickly or slowly that happens.

James Peterson, a cookbook writer who studied chemistry at the University of California at Berkeley, mentioned it in his encyclopedic cookbook, *Sauces*. He says you need to cook a sauce for at least 20 to 30 seconds after adding wine to it to allow the alcohol to evaporate. And there is some sense to that, since alcohol evaporates at 172°F (78°C), so it would seem that any sauce or stew that is simmering or boiling is certainly hot enough to evaporate the alcohol.

However, this is wrong. In fact, you have to cook something for a good three hours to eradicate virtually all traces of alcohol. And, some cooking methods are less effective at removing alcohol than just letting it stand out uncovered overnight.

A study conducted by the US Department of Agriculture's Nutrient Data Laboratory calculated the percentage of alcohol remaining in a dish based on various cooking methods. The results are as follows:

Preparation Method	Alcohol Retained
alcohol added to boiling liquid & removed from heat	85%
alcohol flamed	75%
no heat, stored overnight	70%
baked, 25 minutes, alcohol not stirred into mixture	45%
<b>baked/simmered, alcohol stirred into mixture:</b>	<b>Alcohol Retained</b>
▶ 15 minutes	40%
▶ 30 minutes	35%
▶ 1.0 hour	25%
▶ 1.5 hours	20%
▶ 2.0 hours	10%
▶ 2.5 hours	5%

Now, it may be that the amount of alcohol in a dish is modest to start with, but the fact that some of the alcohol remains could be of significant concern to recovering alcoholics, parents, and others who have ethical or religious reasons for avoiding alcohol.

People who want to abstain from the use of alcohol for health or religious reasons, children, people at risk for alcoholism, alcoholics wanting to recover and those who may be allergic to mold should avoid foods prepared with alcohol.

Fortunately, there are non-alcoholic substitutes available for many of the alcoholic beverages used for added taste in most recipes calling for alcohol.

Here are a few suggestions:

## Suggested Substitutes for Alcoholic Beverages in Cooking Recipes

Choose a substitute taking the sweetness or tartness of the dish you are preparing into consideration.

*Hint:* Distilled white vinegar rather than regular vinegar should be used for acidity to prevent activating mold allergies.

### White Wine Substitutes

- ▶ Apple juice or carrot juice
- ▶ Vegetable stock or chicken stock undiluted or with a little white vinegar
- ▶ ½ cup distilled white vinegar and 1 tablespoon white grape juice

### Red Wine Substitutes

- ▶ ½ cup grape juice or ½ cup water with 2 teaspoons of distilled white vinegar
- ▶ Beef stock or chicken stock undiluted or with a little distilled white vinegar

### Champagne Substitutes

- ▶ Ginger ale or sparkling grape juice

### Brandy Substitutes

- ▶ Apple juice, peach juice, white grape juice or pear juice

### Marsala Substitutes

- ▶ Orange, peach or pear juice

### Orange Liqueur Substitutes

- ▶ Frozen orange juice concentrate