

Blood Alcohol Concentration

Blood Alcohol Concentration (BAC) reflects the percentage of one's blood that is concentrated with alcohol. A BAC of .10 means that .1% of one's bloodstream is alcohol. ¹ As a person consumes alcohol, the drinker's BAC rises. As one's blood alcohol level increases, so do the negative physical effects likely experienced by the drinker.

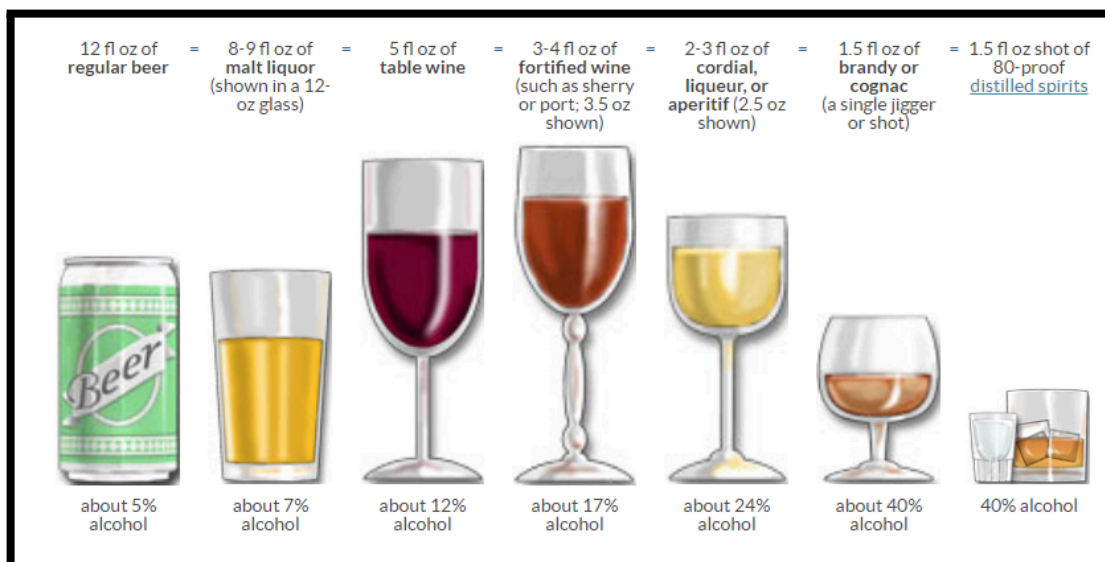
Multiple factors affect one's BAC, including but not limited to:

- the quantity of alcohol consumed;
- the length of time since the alcohol was consumed;
- the drinker's gender and weight;
- interaction with medication and/or other substances;
- whether food is in the drinker's stomach; and
- altitude.

To assist people in estimating their Blood Alcohol Concentration, BAC "calculators" are available. Factors typically included in the calculation are the drinker's gender and weight, the number of alcoholic drinks consumed, and time.

Key to understanding the estimation of Blood Alcohol Concentration is the concept of a "standard" drink. Alcoholic beverages contain different amounts of "pure" alcohol by volume. In the United States, one "standard" drink contains approximately 0.6 fluid ounces (14 grams) of "pure" alcohol. For example, regular beer is approximately 5% pure alcohol; 12 ounces of regular beer is one standard drink. Wine is approximately 12% pure alcohol; 5 ounces of wine is one standard drink. ²

In the illustration below, the drinks pictured are of different alcohol concentrations and of different volumes; however, each contains approximately the same amount of alcohol, and each counts as one standard drink. ²



Graphic copied from *What's a "standard" drink?*

<https://www.rethinkingdrinking.niaaa.nih.gov/How-much-is-too-much/What-counts-as-a-drink/Whats-A-Standard-Drink.aspx> . Nov. 15, 2017

¹ <http://awareawakealive.org/educate/blood-alcohol-content>

² <https://www.rethinkingdrinking.niaaa.nih.gov/How-much-is-too-much/What-counts-as-a-drink/Whats-A-Standard-Drink.aspx>

Practice using the Blood Alcohol Calculator provided on the website for the [Alcohol Help Center](#). By entering information into the BAC estimator, and by reading information posted on the Blood Alcohol Calculator, complete the following chart and questions. After completing this assignment, submit your work to the Office of the Dean of Students (sanctionadvisor@lynchburg.edu, 114 Hundley Hall) by your assigned deadline.

TIME	Number of Standard Drinks Consumed during the Time Period			
Time during which drinking occurs	1 drink	3 drinks	5 drinks	7 drinks
1 hour period	Est. BAC =	Est. BAC =	Est. BAC =	Est. BAC =
Estimated time to burn the alcohol				
2 hour period		Est. BAC =	Est. BAC =	Est. BAC =
Estimated time to burn the alcohol				
3 hour period		Est. BAC =	Est. BAC =	Est. BAC =
Estimated time to burn the alcohol				
4 hour period			Est. BAC =	Est. BAC =
Estimated time to burn the alcohol				
5 hour period			Est. BAC =	Est. BAC =
Estimated time to burn the alcohol				

- At what rate does the liver metabolize (“burn”) alcohol? _____

- How is the rate of alcohol metabolism affected by exercise, taking a cold shower, drinking coffee, or getting fresh air?
- Considering your own use of alcohol, is your estimated BAC higher or lower than you would have predicted before gaining the information above?

- For each Blood Alcohol Concentration level, list *in your own words* the negative physical effects likely experienced by the drinker.

BAC Level	Negative Physical Effects Likely Experienced by the Drinker
0.02 – 0.03	
0.04 – 0.06	
0.07 – 0.09	
0.10 – 0.125	
0.13 – 0.15	
0.16 – 0.19	
0.20	
0.21 – 0.30	
0.30 – 0.35+	

Resource you can use: Alcohol Help Center (http://www.alcoholhelpcenter.net/program/bac_standalone.aspx)

- Based on the information you now have regarding your own estimates of Blood Alcohol Content and regarding the negative physical effects likely experienced at those BAC levels, evaluate your own use of alcohol. What changes do you want to make in your quantity of drinking, speed of drinking, and your resulting BAC level? Explain your thought process and decision(s) in detail.

Submit your completed worksheet to CERP (sanctionadvisor@lynchburg.edu, 114 Hundley Hall) by your assigned completion deadline.