

Alcohol and You

The legal Blood Alcohol Content (BAC) limit for driving a vehicle in Italy, Spain, and Greece is .05 whereas it is .00 in Bahrain. Both figures are significantly lower than in the US where it is .08. In order to promote the safe use of alcohol and to raise your awareness of how you may be impacted by the new BAC limit, you are required to complete the following quiz prior to the issuance of a NATO driver's license.

Use the attached charts to answer the BAC questions. If you do not drink alcohol at all, then please use this test to educate yourself because your awareness could save another person's life someday.

1. I am a *male/female* (**circle one**). I weigh _____ pounds. My BAC will exceed the legal limit of .05 if I consume _____ drinks in **1 hour**. (*Use only the Step #1 chart for this question*) In fact, each drink raises my BAC by approximately .02% whereas each hour that passes only lowers it approximately .015% (.012 to .017), therefore even if I only consume 1 drink per hour, my BAC will continue to increase until I stop drinking. _____ (**Initial here**)
2. If I drink 5 drinks in 5 hours, my BAC at the 5 hour mark will be _____, and it will take another _____ hours before I am below .05 BAC. (*Use both the Step #1 and Step #2 charts for this question*)
3. If I drink 8 beers/glasses of wine over 5 hours while out with friends (less than 2 drinks per hour), my BAC at the 5 hour mark will be _____, and it will not be below .05 BAC for another _____ hours. Worst of all, if I started drinking at 9pm and finished drinking at 2am, then I will not be 100% sober until _____ am/pm the next day? (*Use both the Step #1 and Step #2 charts for this question*)
4. The effects of alcohol may be increased by many factors so even when your BAC is below .05 you are still at risk of car accidents, or arrest. In fact, research has demonstrated that sober drivers suffering fatigue perform as poorly as drunk drivers. Operating a motor vehicle after 11pm gets increasingly more dangerous due to fatigue and the body's natural sleep/wake cycles so you should never drive with any alcohol in your system late at night. _____ (**Initial here**)
5. Alcohol also should not be consumed when taking *prescription medications/over the counter medications/Both* (**circle one**). The combination of medicine with alcohol could create compound effects which would make the BAC calculations above worthless. In fact, I could be arrested for DUI simply due to the effects of the medicine without any alcohol.
6. Tolerance is a person's ability to consume alcohol without feeling its effects. However, tolerance does/does not (**circle one**) change a person's actual BAC from the calculations above. Therefore, a high tolerance may result in poor judgment when deciding to drive because it causes a false sense of sobriety. Lastly, developing a high tolerance to alcohol can be a sign of regular heavy use or abuse of alcohol which could lead to addiction or other health issues. _____ (**Initial here**)
7. Women absorb and metabolize alcohol differently than men; in general women have less body water to dilute alcohol and smaller quantities of the enzyme dehydrogenase which breaks down alcohol in the stomach than men of similar weight, therefore a woman will absorb about 30% more alcohol than a man of the same weight. _____ (**Initial here**)
8. The Center for Disease Control and the National Institute for Alcohol Abuse and Addiction (NIAAA) define moderate drinking as consuming no more than 2 drinks per day for men and 1 drink per day for women. Furthermore, they define heavy drinking as 5 or more drinks per day for men and 4 or more for women. Lastly, binge drinking is defined as consumption that causes BAC to exceed .08 in a two hour period. **What category do you usually fit in?** To learn more about the impact of your normal alcohol consumption patterns visit <http://www.cdc.gov/alcohol/fact-sheets/binge-drinking.htm> or <http://www.niaaa.nih.gov/alcohol-health/alcohols-effects-body>

Need help? Contact your command DAPA or visit the installation Substance Abuse Rehab Program

Based on my calculations here, I have a good idea of how alcohol affects me personally. Therefore, I will strive to consume alcohol in responsible moderation, and **I will not drink and drive!**

Name _____ Date _____ Signature _____

Follow this two step process to determine your BAC for a given amount of alcohol over different periods of time.

STEP #1: Find your approximate BAC for total consumption in 1 hour						
Men (total BAC chart)						
	140lbs	160lbs	180lbs	200lbs	220lbs	240lbs
1 drink	0.03	0.02	0.02	0.02	0.02	0.02
2 drinks	0.05	0.05	0.04	0.04	0.03	0.03
3 drinks	0.08	0.07	0.06	0.06	0.05	0.05
4 drinks	0.11	0.09	0.08	0.08	0.07	0.06
5 drinks	0.13	0.12	0.11	0.09	0.09	0.08
6 drinks	0.16	0.14	0.13	0.11	0.1	0.09
7 drinks	0.19		0.15	0.13	0.12	0.11
8 drinks	0.21	0.19	0.17	0.15	0.14	0.13
9 drinks	0.24	0.21	0.19	0.17	0.15	0.14
10 drinks	0.27	0.23	0.21	0.19	0.17	0.16

STEP #2: Adjust you BAC for consumption over time														
Use the BAC from the Gender/Weight table to find your start on the 1 hour line, then move down the chart to adjust for time														
Question 2	Question 3													
Start here->	9-10pm	0.050	0.060	0.080	0.090	0.100	0.110	0.120	0.130	0.150	0.170	0.200		
2 hours	11pm	0.038	0.048	0.068	0.078	0.088	0.098	0.108	0.118	0.138	0.158	0.188		
3 hours	Midnight	0.026	0.036	0.056	0.066	0.076	0.086	0.096	0.106	0.126	0.146	0.176		
4 hours	1am	0.014	0.024	0.044	0.054	0.064	0.074	0.084	0.094	0.114	0.134	0.164		
5 hours	2am	0.002	0.012	0.032	0.042	0.052	0.062	0.072	0.082	0.102	0.122	0.152		
6 hours	3am		0.000	0.020	0.030	0.040	0.050	0.060	0.070	0.090	0.110	0.140		
7 hours	4am			0.008	0.018	0.028	0.038	0.048	0.058	0.078	0.098	0.128		
8 hours	5am				0.006	0.016	0.026	0.036	0.046	0.066	0.086	0.116		
9 hours	6am					0.004	0.014	0.024	0.034	0.054	0.074	0.104		
10 hours	7am						0.002	0.012	0.022	0.042	0.062	0.092		
11 hours	8am							0.000	0.010	0.030	0.050	0.080		
12 hours	9am								0.000	0.018	0.038	0.068		
13 hours	10am									0.006	0.026	0.056		
14 hours	11am										0.014	0.044		
15 hours	Noon											0.002	0.032	
16 hours	1300												0.020	
17 hours	1400													0.008
		RED - Illegal to drive		YELLOW - Legal but potentially impaired				GREEN - Sober						

NOTE: The metabolism rate of .012 is a conservative estimate and is utilized in the Navy's smartphone application Pier Pressure*. You can also visit www.bloodalcoholcalculator.org to become more familiar with how your typical consumption affects your blood alcohol.

* *Pier Pressure* is a Navy Smartphone App that contains multiple tools including a BAC calculator and taxi service locator. Download it from the Apple App store or the Google Play Store.

Follow this two step process to determine your BAC for a given amount of alcohol over different periods of time.

STEP #1: Find your approximate BAC for total consumption in 1 hour						
Women						
	90lbs	100lbs	120lbs	140lbs	160lbs	180lbs
1 drink	0.05	0.05	0.04	0.03	0.03	0.03
2 drinks	0.1	0.09	0.08	0.07	0.06	0.05
3 drinks	0.15	0.14	0.11	0.1	0.09	0.08
4 drinks	0.2	0.18	0.15	0.13	0.11	0.1
5 drinks	0.25	0.23	0.19	0.16	0.14	0.13
6 drinks	0.3	0.27	0.23	0.19	0.17	0.15
7 drinks	0.35	0.32	0.27	0.23	0.2	0.18
8 drinks	0.4	0.36	0.3	0.26	0.23	0.2
9 drinks	0.45	0.41	0.34	0.29	0.26	0.23
10 drinks	0.51	0.45	0.38	0.32	0.28	0.25

STEP #2: Adjust you BAC for consumption over time														
Use the BAC from the Gender/Weight table to find your start on the 1 hour line, then move down the chart to adjust for time														
Question	Question 3													
Start here	9-10pm	0.050	0.060	0.080	0.090	0.100	0.110	0.120	0.130	0.150	0.170	0.200		
2 hours	11pm	0.038	0.048	0.068	0.078	0.088	0.098	0.108	0.118	0.138	0.158	0.188		
3 hours	Midnight	0.026	0.036	0.056	0.066	0.076	0.086	0.096	0.106	0.126	0.146	0.176		
4 hours	1am	0.014	0.024	0.044	0.054	0.064	0.074	0.084	0.094	0.114	0.134	0.164		
5 hours	2am	0.002	0.012	0.032	0.042	0.052	0.062	0.072	0.082	0.102	0.122	0.152		
6 hours	3am		0.000	0.020	0.030	0.040	0.050	0.060	0.070	0.090	0.110	0.140		
7 hours	4am			0.008	0.018	0.028	0.038	0.048	0.058	0.078	0.098	0.128		
8 hours	5am				0.006	0.016	0.026	0.036	0.046	0.066	0.086	0.116		
9 hours	6am					0.004	0.014	0.024	0.034	0.054	0.074	0.104		
10 hours	7am						0.002	0.012	0.022	0.042	0.062	0.092		
11 hours	8am							0.000	0.010	0.030	0.050	0.080		
12 hours	9am								0.000	0.018	0.038	0.068		
13 hours	10am									0.006	0.026	0.056		
14 hours	11am										0.014	0.044		
15 hours	Noon											0.002	0.032	
16 hours	1300												0.020	
17 hours	1400													0.008
		RED - Illegal to drive			YELLOW - Legal but potentially impaired				GREEN - Sober					

NOTE: The metabolism rate of .012 is a conservative estimate and is utilized in the Navy's smartphone application Pier Pressure*. You can also visit www.bloodalcoholcalculator.org to become more familiar with how your typical consumption affects your blood alcohol.

* *Pier Pressure* is a Navy Smartphone App that contains multiple tools including a BAC calculator and taxi service locator. Download it from the Apple App store or the Google Play Store.

Effects at specific B.A.C. levels

0.02-0.03 BAC: No loss of coordination, slight euphoria and loss of shyness. Depressant effects are not apparent. Mildly relaxed and maybe a little lightheaded.

0.04-0.06 BAC: Feeling of well-being, relaxation, lower inhibitions, sensation of warmth. Euphoria. Some *minor impairment of reasoning and memory, lowering of caution*. Your behavior may become exaggerated and emotions intensified (Good emotions are better, bad emotions are worse)

0.07-0.09 BAC: *Slight impairment of balance, speech, vision, reaction time, and hearing*. Euphoria. Judgment and self-control are reduced, and caution, reason and memory are impaired. *You will probably believe that you are functioning better than you really are.*

Becoming vulnerable

0.10-0.125 BAC: *Significant impairment of motor coordination and loss of good judgment*. Speech may be slurred; balance, vision, reaction time and hearing will be impaired.

RAPIDLY becoming a dangerous scenario from this point forward

0.13-0.15 BAC: Gross motor impairment and lack of physical control. Blurred vision and major loss of balance. Euphoria is reduced and dysphoria (anxiety, restlessness) is beginning to appear. Judgment and perception are severely impaired.

0.16-0.19 BAC: Dysphoria predominates, nausea may appear. The drinker has the appearance of a "sloppy drunk."

0.20 BAC: Feeling dazed, confused or otherwise disoriented. May need help to stand or walk. If you injure yourself you may not feel the pain. Some people experience nausea and vomiting at this level. The gag reflex is impaired and you can choke if you do vomit. Blackouts are likely at this level so you may not remember what has happened.

First mention of the risk of death (asphyxiation)

0.25 BAC: All mental, physical and sensory functions are severely impaired. Increased risk of asphyxiation from choking on vomit and of seriously injuring yourself by falls or other accidents.

Will likely require medical intervention – take person the to a hospital

0.30 BAC: STUPOR. You have little comprehension of where you are. You may pass out suddenly and be difficult to awaken.

0.35 BAC: Coma is possible. This is the level of surgical anesthesia.

0.40 BAC and up: Onset of coma, and possible death due to respiratory arrest.

Administrative Notes:

There are a number of variables in determining the rate at which alcohol is absorbed and metabolized by the body. This test is not meant to address all variables but rather to educate individuals on how their consumption would affect them on average.

The tables were drawn from the University of Virginia website and were cross checked against multiple sources. Variations were minimal.

The rate of alcohol removal used on page one is extremely conservative. Most website calculators are utilizing .015 per hour. However, the Navy appears to have chosen .012 for its rate within the NADAP PierPressure smartphone application. In order to keep this test more closely aligned with the NADAP smartphone app, I too chose to use .012.

Grading: Test takers may utilize the charts provided, the Pier Pressure application or the online calculator at www.bloodalcoholcalculator.org to complete the test. Because of the variation in methodology, it is difficult to grade this exam within +/- 1 drink so do not attempt to do so. The real purpose is to force the individual to think critically about their drinking patterns, understand what is happening, and label those patterns.

Feedback is welcome. This is the first version of this training/quiz and it should continue to evolve with instructor feedback. Please send your thoughts to:

CDR Joseph McMonigle, joseph.mcmonigle@eu.navy.mil or call DSN 314-626-6225/ COM +39 081-568-6225