



## **Blood Alcohol Content (BAC) Effects & Estimations**

**Blood Alcohol Content (BAC)** measures alcohol in the blood as a percentage. It is calculated in grams per 100 mL of blood, so a BAC of 0.08 means your blood is 0.08% alcohol by volume. Using a breathalyzer, BAC is measured as grams per 210 Liters of breath (since the ratio of breath alcohol to blood alcohol is 2,100:1). The following are predictable effects we'd expect to see at different BAC levels for a drinker who has not developed tolerance. Some of these change with tolerance; others don't.

<u><b>BAC</b></u>	<u><b>Effects Experienced</b></u>
.02- .04%	<b>Lightheaded</b> – Relaxation, sensation of warmth, “high,” minor impairment in judgment
.05- .07%	<b>Buzzed</b> – Relaxation, euphoria, lower inhibitions, minor impairment of reasoning and memory, exaggerated emotions (positive and negative)
.08- .10%	<b>Legally impaired</b> – Euphoria, fatigue, impairment in balance, speech, vision (particularly peripheral), reaction time, and hearing, judgment and self-control impaired
.11- .15%	<b>Drunk</b> – “High” is reduced, depressive effects (anxiety, depression, unease) more pronounced, gross motor impairment, judgment and perception severely impaired
.16- .19%	<b>Very drunk</b> – Strong state of depression, nausea, disorientation, dizziness, increased motor impairment, blurred vision, judgment further impaired
.20- .24%	<b>Dazed and confused</b> – Gross disorientation to time and place, increased nausea and vomiting, may need assistance to stand or walk, impervious to pain, blackout likely
.25- .30%	<b>Stupor</b> – All mental, physical, and sensory functions are severely impaired, accidents very likely, little comprehension, may pass out suddenly
.31% and up	<b>Coma</b> – Level of surgical amnesia, onset of coma, possibility of acute alcohol poisoning, death due to respiratory arrest likely in 50% of drinkers



# BENTLEY UNIVERSITY

AOD Recovery and Support

## Male

### Approximate Blood Alcohol Content (BAC) In One Hour

Source: National Highway Traffic Safety Administration

Drinks	Body Weight In Pounds								Influenced
	100	120	140	160	180	200	220	240	
1	.04	.03	.03	.02	.02	.02	.02	.02	Possibly
2	.08	.06	.05	.05	.04	.04	.03	.03	
3	.11	.09	.08	.07	.06	.06	.05	.05	Impaired
4	.15	.12	.11	.09	.08	.08	.07	.06	
5	.19	.16	.13	.12	.11	.09	.09	.08	Legally Intoxicated
6	.23	.19	.16	.14	.13	.11	.10	.09	
7	.26	.22	.19	.16	.15	.13	.12	.11	
8	.30	.25	.21	.19	.17	.15	.14	.13	
9	.34	.28	.24	.21	.19	.17	.15	.14	
10	.38	.31	.27	.23	.21	.19	.17	.16	

Subtract .015 for each hour after drinking.

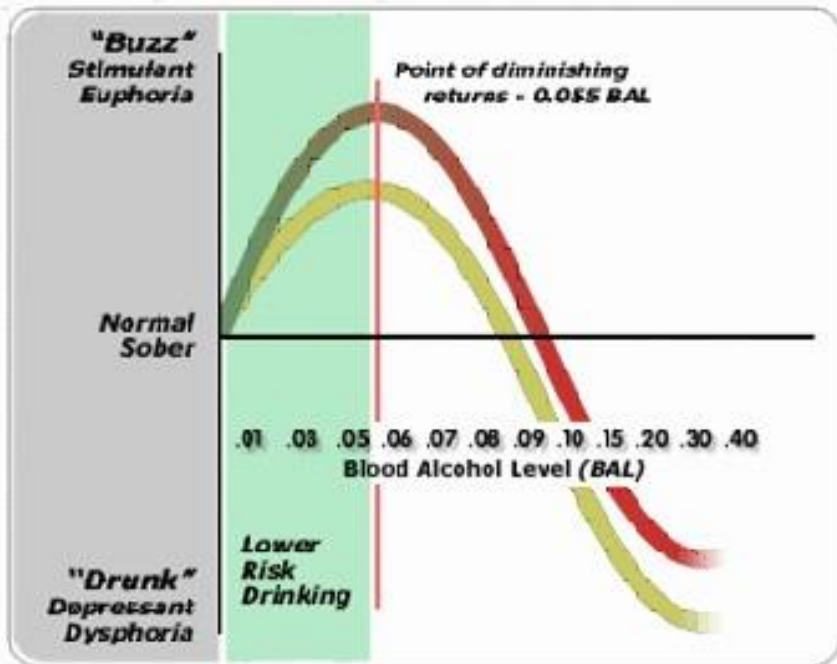
## Female

### Approximate Blood Alcohol Content (BAC) In One Hour

Source: National Highway Traffic Safety Administration

Drinks	Body Weight In Pounds								Influenced
	100	120	140	160	180	200	220	240	
1	.05	.04	.03	.03	.03	.02	.02	.02	Possibly
2	.09	.08	.07	.06	.05	.05	.04	.04	
3	.14	.11	.11	.09	.08	.07	.06	.06	Impaired
4	.18	.15	.13	.11	.10	.09	.08	.08	
5	.23	.19	.16	.14	.13	.11	.10	.09	Legally Intoxicated
6	.27	.23	.19	.17	.15	.14	.12	.11	
7	.32	.27	.23	.20	.18	.16	.14	.13	
8	.36	.30	.26	.23	.20	.18	.17	.15	
9	.41	.34	.29	.26	.23	.20	.19	.17	
10	.45	.38	.32	.28	.25	.23	.21	.19	

Subtract .015 for each hour after drinking.



This convenient app & monitoring tool will continuously track and estimate your alcohol consumption and Blood Alcohol Concentration (BAC) level over time. Simply record your drinks for an up-to-date estimate of your BAC.

Developed by Dr. Alex Lemiszki, Psy.D. and the Bentley University Counseling Center – Updated August 2024.

Information cited from the University of Toledo Counseling Center

If you desire professional consultation regarding your mental health, please visit the Bentley University Counseling Center at 781-891-2274 or online at <https://www.bentley.edu/university-life/student-health/counseling-center>.



## On BAC & Tolerance

### What is tolerance?

A person with tolerance requires a higher BAC than they previously did to experience the same effects. When you build tolerance, your body has somewhat accustomed to processing alcohol, therefore is suppressing its normal responses to toxins. So, you're less likely to vomit, pass out, etc. than without tolerance.

- Your ability to stand, walk, speak without slurring, etc. **may improve** with tolerance.
- Your reaction time and peripheral vision **do not improve** with tolerance.
- Your BAC and the rate at which you metabolize alcohol **do not change** with tolerance.

### Tolerance is not a good goal. Here's why:

- Physical damage and **impairment are occurring without your knowledge**. With tolerance, you feel less drunk, so you're less able to accurately judge your ability to function. For example, you may think you're okay to drive, even though your reaction time and vision are impaired.
- Your **body no longer protects you the way it is meant to** – since you're less likely to vomit or pass out, you may reach even higher, more toxic BAC levels.
- When you develop tolerance, **you can no longer experience the “buzz”** – you don't get the same stimulant effects at low doses.
- **It's expensive** – since you don't feel the effects as quickly, you end up buying more drinks.
- Tolerance and withdrawal are two **symptoms of an Alcohol Use Disorder**-- if you're building your tolerance, you're moving toward physical addiction.

### Good news – you can bring your tolerance back down.

Just go for a significant amount of time without drinking. For most students, a few weeks ought to have a significant effect. Drinking less may bring tolerance down very slowly, but it's not all that effective – a period of abstinence works better.