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## Ethanol Level

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• Reference Range
Interpretation
Collection and Panels
Background
Show All
Tables
References

### Reference Range

Ethanol level can be measured by blood, urine, saliva, or breath tests. Toxic concentration is dependent on individual tolerance and usage although levels greater than 300-400 mg/dL can be fatal. Conversion unit: one millimole of ethanol per liter of blood is equal to 4.61 per 100 milliliters of blood. <sup>[1]</sup>

Serum ethanol levels are as follows:

- Negative: no alcohol detected
- Lower limit of detection <sup>[2]</sup> = 10 mg/dL
- >80 mg/dL (>17.4 mmol/L) is considered positive for driving under the influence in most states
- >300-400 mg/dL (65.1-86.8 mmol/L) potentially fatal

### Blood alcohol concentration

To convert serum ethanol level to BAC, move the decimal point 3 places to the left. Example, a 100 mg/dL serum ethanol level is equivalent to a 0.10 (g/dL) BAC, or 0.10% (weight/volume). This means that one tenth of a percent of a person's blood volume is alcohol or that a person has 1 part alcohol per 1000 parts blood. <sup>[3, 4]</sup>

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### Urine ethanol level (similar to above)

Urine ethanol levels vary widely and do not correlate well with blood alcohol level (and according to Wallach cannot be used to determine level of intoxication; see more below). [2, 5]

Next: [Interpretation](#)

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