

**Deadline of Submission of Comments: 11-Dec-23**  
**Document Number: ANSI/ASB BPR 122**  
**Document Title: Best Practice Recommendation for Performing Alcohol Calculations in Forensic Toxicology**

Comment #	Text Line # (s)	Document Section	Type of Comment E-Editorial T-Technical	Current Document Wording	Proposed Revision	Revision Justification	For Working Group and Consensus Body use only, not to be completed by commenter.
							Final Resolution
1	All	All	E	Updates to the wording throughout and the calculations are all valid improvements. This document is important for the field and it covers the topic thoroughly.	none		No response needed. Thank you for the feedback.
22	17-19	4	T	"It is not intended to contain any requirements." - This text was added for this revision.	Remove "must", "it is expected", etc.	If it is the intent of the authors to not have requirements in the Background information section, then wording should be revised so that there are not any requirements (see other comments below)	ACCEPT: Despite the overarching statement that the section contains no requirements, rewording was done where applicable to remove words that could still be misinterpreted as requirements in this section.
23	22-23	4.1.1	T	"must be considered"	Delete sentence	Requirement language must be removed from this section to be consistent with the language added under 4, lines 17-19.	ACCEPT W/ MODIFICATION: Sentence was retained, but reworded.
24	23-25	4.1.1	T	"it is expected"	Delete sentence	Training is the subject of a different document and beyond the scope of this one. Requirement language must be removed from this section to be consistent with the language added under 4, lines 17-19.	ACCEPT: Sentence was removed.
25	32	4.1.2	T	"for complete absorption"	Revise to "to reach the post-absorptive phase"	Complete absorption does not seem technically accurate, as absorption is not an on/off switch and would be impossible to determine, nor relevant, when it occurred in a study. Revision would also be consistent with the new language added in 4.1.4.4. Also in 4.2.2 and throughout the rest of the document.	ACCEPT: Please note that comments on a re-circulation are generally accepted only on revised sections of the document. Comments made on text not revised from the previous public comment period are generally not accepted. The CB reviewed the suggestion and did agree with the proposed wording change.
27	33	4.1.2	T	Most of the references cited only present time to peak alcohol concentration and do not support the statement made.	Remove references that do not present time to "complete absorption", whatever that is.	References should only be used that provide support to the statement made. Reference 5 does provide data on time to the start of the linear elimination rate. However, care should be taken when interpreting that study as BrAC was used and variations due to sample collection may impact the results - as discussed by Jones in Reference 15	REJECT: The CB feels the references do contain data to support the statement. Experts must consider the limitations of all studies in the references.
26	34	4.1.2	T	"time to complete absorption"	Revise to "to reach the post-absorptive phase"	Complete absorption does not seem technically accurate, as absorption is not a on/off switch and would be impossible to determine, nor relevant, when it occurred in a study. Revision would also be consistent with the new language added in 4.1.4.4. Also in 4.2.2 and throughout the rest of the document.	ACCEPT: Please note that comments on a re-circulation are generally accepted only on revised sections of the document. Comments made on text not revised from the previous public comment period are generally not accepted. The CB reviewed the suggestion and did agree with the proposed wording change.
4	47	4.1.3.1	E	comparing, or attempting to average, these	comparing or attempting to average these	commas not needed	ACCEPT: Please note that comments on a re-circulation are generally accepted only on revised sections of the document. Comments made on text not revised from the previous public comment period are generally not accepted. The CB reviewed the suggestion and agreed with the editorial suggestion.
11	67	4.1.4.2	ET	An elimination rate range of 0.010-0.025 g/dL/hour encompasses the majority of the population regardless of age, sex, ethnicity, and drinking experience [7, 8, 9, 10, 11, 23, 25, 27, 32].	An elimination rate, $\beta$ , range of 0.010-0.025 g/dL/hour encompasses the majority of the population regardless of age, sex, ethnicity, and drinking experience [7, 8, 9, 10, 11, 23, 25, 27, 32].	Define for further use in calculations section, just as you defined the volume of distribution (Vd); please note - I am also making a requested change from using R to $\beta$ later on in calculation section	REJECT: No abbreviation is used in the text, however, the commenter's suggestion to replace R with $\beta$ was accepted throughout the formulas/calculations.
5	71	4.1.4.4	E	post-absorptive	post absorptive	only place where there is a hyphen between the words	ACCEPT: Hyphen was removed.
28	71	4.1.4.4	T	"The expert needs to consider..."	Revise to "The linear elimination rate applies when the subject is in the post-absorptive state." or something similar	This is a requirement and conflicts with the new text added under section 4, lines 17-19. Wording needs to be revised so that it is informational.	ACCEPT W/ MODIFICATION: Rewording was used as suggested with minor modification.
20	73	4.2 Case History	E	N/A	Add discussion of how the foundational elements of the time of test laws can be leveraged in providing calculations for reports or expert testimony.	This section lacks any mention of the foundation supported by the consensus body that has led to time of test laws, which often simplifies many of the calculations experts are asked to perform.	REJECT: Please note that comments on a re-circulation are generally accepted only on revised sections of the document. Comments made on text not revised from the previous public comment period are generally not accepted. The CB reviewed the suggestion does not feel this information is needed in the best practice recommendation, as laws differ across jurisdictions.

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29	80	4.2.2	E	"post absorptive"	"post-absorptive"	Missing dash. Not sure which is correct, however need to review document to be consistent throughout (other instances in 4.1.4.4, 5.4.6.1, 5.4.6.2, 5.4.6.4, etc.). MW.com has it as one word - postabsorptive	REJECT: Please note that comments on a re-circulation are generally accepted only on revised sections of the document. Comments made on text not revised from the previous public comment period are generally not accepted. The CB reviewed the suggestion and feels two words is appropriate.
2	87-90	4,3,1	T	Serum and plasma have a higher water content than whole blood. Research supports a 95 percent range for a serum or plasma to whole blood ratio of 1.13-1.19 weight/weight(14). Using a density conversion of 1.03 g/mL for serum and 1.06 g/mL for whole blood(14) , this translates to a weight/volume range of 1.09-1.16.	Serum and plasma have a higher water content than whole blood. Research supports a 95 percent range for a serum or plasma to whole blood ratio of 1.13-1.19 (14).	The water content ratio does not have units. A concentration divided by a concentration, the units are cancelled. The 1,13-1,19 range for a 95% confidence interval is the range that should be used to convert mg/100 mL in serum to mg/100 mL in blood. This (based on the water content) agrees well with the ratios for alcohol content in the literature (Charlesbois for example). The density is only important if the final result is to be reported in g/kg (as in Germany). If this is what you meant to adress, this should be explained explicitly.	ACCEPT: Based on communication with the authors of the reference, the CB agrees that this is an appropriate way to apply the conversion. (Also updated in 5.1.2.1)
10	122, 440, 446, 467		E	210L	210 L	Correct for consistency--pick one or the other. 4 instances without space and 3 with space	ACCEPT: A space was added between numbers and units to be consistent with the rest of the document.
30	126	5.1.2.2	E	AC	Revise to alcohol concentration (AC) or replace abbreviation.	Abbreviation not yet defined in the document.	ACCEPT: Please note that comments on a re-circulation are generally accepted only on revised sections of the document. Comments made on text not revised from the previous public comment period are generally not accepted. The CB reviewed the suggestion and the undefined abbreviation was removed from the text, AC is only used in the calculations.
12	156, 158	5.3.1	ET	AC = D/Vd*w; AC = alcohol concentration (g/L)	AC = D/Vd x w x 10 dL/L; AC = alcohol concentration (g/dL)	This is the only location where the units for AC is g/L. It is best to make the change into the commonly used g/dL now. Also, you use the asterisks for multiplication in this formula but use x every other time (consistency)	REJECT: Please note that comments on a re-circulation are generally accepted only on revised sections of the document. Comments made on text not revised from the previous public comment period are generally not accepted. The CB reviewed the suggestion, and since Equation 4 is the classic Widmark formula, the units were left as g/L. The application of the formula throughout the document applies conversions where necessary to work with AC in g/dL units which is commonly used in the US. The * was corrected to x.
13	224	5.4.2	ET	R = elimination rate (g/dL/hour)	$\beta$ = elimination rate (g/dL/hour)	In most literature, the elimination rate is defined as $\beta$ . See example literature - Maskell/Cooper - 2020 JFS - The Contribution of Body Mass and Volume of Distribution to the Estimated Uncertainty Associated with the Widmark Equation, p. 1676. It isn't clear why you would default to R when you kept the greek letter, $\rho$ , for density.	ACCEPT: Please note that comments on a re-circulation are generally accepted only on revised sections of the document. Comments made on text not revised from the previous public comment period are generally not accepted. The CB reviewed the suggestion and agreed with the recommended editorial change.
3	228	5.4.4	T	The minimal range shall be 0.010-0.025 g/dL/hour	Either take out the word minimal or If minimal is used then provide examples of when it is appropriate to use values outside this range and what values should be used in those examples.	All other ranges are absolute.	REJECT: Please note that comments on a re-circulation are generally accepted only on revised sections of the document. Comments made on text not revised from the previous public comment period are generally not accepted. The CB reviewed the suggestion and supports the range being the minimum range. Larger ranges may be applicable (with appropriate references) to unique scenarios which cannot all be addressed in a best practice recommendation.
6	229	5.4.4	E	minimal range	minimum range	grammatical: minimum refers to a quantitative noun while minimal is qualitative	ACCEPT: The word was revised.

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7	255	6.1	E	calculations should be documented, and assumptions clearly stated	calculations should be documented and assumptions clearly stated	comma not needed	ACCEPT: Please note that comments on a re-circulation are generally accepted only on revised sections of the document. Comments made on text not revised from the previous public comment period are generally not accepted. The CB reviewed the suggestion and agreed with the recommended editorial change.
21	263	6.4 Calculations during Testimony	E	<i>...While the expert must respectfully follow the orders of the legal authorities overseeing the testimony (trial, deposition, etc.), performing calculations during live testimony is discouraged due to the inherent risks. When so compelled, it is recommended that the witness document the additional work. Depending on the scope of the new work requested and its complexity, the expert may consider requesting a brief recess to perform the work and allow for its review. In some circumstances, it may be appropriate to discuss the impact a change would have on the calculations, instead of conducting new calculations, e.g., if the subject's drinking history changes, one could state that it would raise or lower the estimated AC range provided, without calculating the new range.</i>	Remove this section completely. It does not add anything to the recommendation already provided in 6.3, and suggests a contradictory example in lieu of recalculating with technical review.	This is a paradigm shift and in the eyes of the judges, it has real potential to cast our experts in a bad light as slow, uncooperative or incompetent. That aside, it is inappropriate to suggest providing the impact of a change in variables without review as an alternative to calculations and technical review if technical review is the recommended best practice. The example provided is obviously followed by the question "By how much?" and now calculations are required. More context is needed here or leave the example out.	REJECT: The CB feels the section is appropriate in the document. The example is intended to illustrate when redoing the calculations may not be necessary.
31	264	6.4	T	"Performing alcohol calculations is a forensic service request..."	Delete definition and revise to "Performing alcohol calculations should not be viewed..."	Definition is overly narrow and unnecessary. Unclear why the ASB needs to define this as a "forensic service request." Does this mean that a consultant that does not work for a forensic service provider cannot perform them? Removing this definition does not substantially change the text.	REJECT: Please note that comments on a re-circulation are generally accepted only on revised sections of the document. Comments made on text not revised from the previous public comment period are generally not accepted. The CB reviewed the suggestion and feels this work is a forensic service request. Consultants perform forensic services. Individuals may be forensic service providers, independent of where they work.
8	376	A.2	E	post-incident	post incident	only place where there is a hyphen between the words	ACCEPT: Please note that comments on a re-circulation are generally accepted only on revised sections of the document. Comments made on text not revised from the previous public comment period are generally not accepted. The CB reviewed the suggestion and agreed with the recommended editorial change.
14	381	A.2 Retrograde extrapolation, subject is postabsorptive	E	$AC_{inc} = AC_{test} + (R \times T)$	$AC_{inc} = AC_{test} + (\beta \times T)$	See note for comment 3, text line 224, section 5.4.2	ACCEPT: The symbol was updated.
9	389	A.3	E	got one last shot	got one last shot of tequila OR A female subject was drinking tequila at a bar.	specify drink in History to be consistent with other examples	ACCEPT: Please note that comments on a re-circulation are generally accepted only on revised sections of the document. Comments made on text not revised from the previous public comment period are generally not accepted. The CB reviewed the suggestion and agreed with the recommended editorial change.
15	409	A.3 Retrograde extrapolation, subject is not postabsorptive	E	$AC_{inc} = AC_{test} + (R \times T)$	$AC_{inc} = AC_{test} + (\beta \times T)$	See note for comment 3, text line 224, section 5.4.2	ACCEPT: The symbol was updated.
18	485	A.5 Minimal Case History Available	E	$AC_{inc} = 0.075 \text{ g/dL} + (0.010 \text{ g/dL/hour} \times 2 \text{ hours}) = 0.095 \text{ g/dL}$	$AC_{inc} = 0.075 \text{ g/dL} + (0.010 \text{ g/dL/hour} \times 2 \text{ hours}) = 0.095 \text{ g/dL}$	Fix the spacing. It looks right justified instead of left justified. Also, should this look more like lines 490-492 with the low calculation on the left and the high calculation on the right?	ACCEPT: Formatting change was made.
16	486	A.5 Minimal Case History Available	E	$AC_{inc} = AC_{test} + (R \times T)$	$AC_{inc} = AC_{test} + (\beta \times T)$	See note for comment 3, text line 224, section 5.4.2	ACCEPT: The symbol was updated.
17	486	A.5 Minimal Case History Available	E	$AC_{inc} = AC_{test} + (\beta \times T)$	move to line 485	The formula used should be shown first, followed by the calculations.	ACCEPT: Formatting change was made.

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19	487	A.5 MinimalCaseHistoryAvailable	E	ACinc = 0.075 g/dL + (0.025 g/dL/hour x 2 hours) = 0.125 g/dL	ACinc = 0.075 g/dL + (0.025 g/dL/hour x 2 hours) = 0.125 g/dL	Fix the spacing. It looks right justified instead of left justified. Also, should this look more like lines 490-492 with the low calculation on the left and the high calculation on the right?	ACCEPT: Formatting change was made.