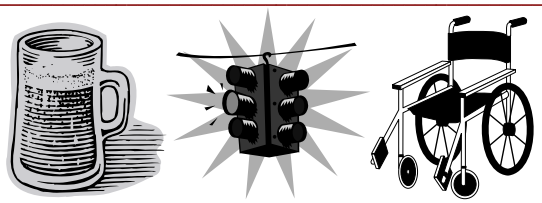
CASE CONSULTATION

An Illustration: Liquor Liability



CASE CONSULTATION: Even without testimony, an experienced liquor liability expert can assist legal counsel. Consider the following example case-assignments:

Appraisal of the qualifications-reputation-and-record of other available experts, their charges, and case-assignments

Evaluation of potential expert testimony and anticipation of cross-examination with special emphasis on at least six case-specific issues:

Alcohol Concentration Test Results
Total Alcohol Consumption
BAC at the Time of Last Service
Reported Appearance-Behavior-Demeanor
Expected Effects Based on BAC
Witness Testimony

Strategic options including expert deposition and/or voir dire, trial exhibits, and cross- examination.

BACKGROUND: CASE-SPECIFIC ISSUES

Alcohol test results

In most liquor liability cases, the relevant post-accident alcohol concentration tests are done in hospitals using blood serum. The reliability of a blood serum alcohol concentration (BSAC) test result should be reviewed; and the BSAC result should be expressed as an equivalent whole blood alcohol concentration (BAC). *While most BSACs are about 15 percent higher than the equivalent BAC, some experts will argue that the difference can be more than 30 percent.*

Alcohol consumption

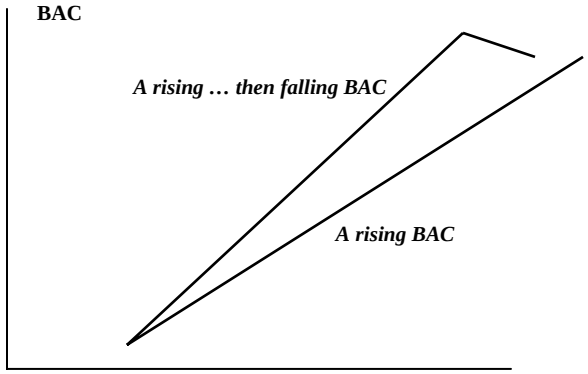
The estimation of a person's total alcohol consumption (TAC) should account for the total amount of alcohol eliminated (TAE) between the time alcohol was first consumed and the time the alcohol test specimen was drawn or the time of death plus the total body alcohol (TBA) in all tissues and fluids necessary to account for the subject's BAC test result.

TAC = TAE + TBA

For example: If a 180 pound male had a BAC of 0.15% after drinking for five hours, the TAE would be equivalent to about three drinks and the TBA would be equivalent to about six drinks. Therefore, the total alcohol consumption would be equivalent to about nine drinks or the amount of alcohol in about 13 ounces of 80-proof liquor or 108 ounces of five percent beer.

Estimation of BAC at a specific time

The estimation of a drinker's BAC at the time of last service is usually based on a process of extrapolation that is applied to case-specific information.



A Case-Example Time-Line

[_____ … __]

1 2 3 4

When (1) is the time alcohol was first consumed, (2) is the time alcohol was last served, (3) is the time of last consumption, (4) is the time the alcohol test specimen was collected, and (1-4) is the time period during which alcohol was eliminated.

There are a variety of ways to estimate BAC at a specific time and, indirectly, the expected alcohol-related effects. An experienced toxicologist can evaluate each of the following approaches:

- Retrograde extrapolation from a BAC test
- Forward extrapolation based on consumption
- Range extrapolation based on all variables
- Evaluation of witness statements and testimony
- Timed indicia of "intoxication" and/or psychophysical extrapolation

In most cases, the drinker's BAC is rising: The BAC is usually lower at the time of last service than it is at the time of a post-service accident; and the drinker's post-accident BAC is sometimes the peak or highest BAC experienced by the drinker**.**

… At the time of last service, there is usually alcohol in the drinker's stomach and there is alcohol in the last alcoholic beverage served to the drinker, … and the drinker usually experiences a rising BAC that does not reach a peak level until sometime after the last swallow of alcohol. Three approaches to extrapolation follow.

Retrograde extrapolation is the calculation of BAC at a specific time based on one or more alcohol concentration test result(s) at some later time(s) and what are sometimes unspecified or implicit assumptions. These assumptions usually include the following:

Assumptions that the subject was fully post-absorptive and experiencing a falling BAC between the time of interest and the time of the alcohol concentration test, that the assumed rate of elimination used to calculate the fall in the subject's BAC is reliable, that there were no special factors affecting the subject's post-accident BAC, and that the alcohol test result was reliable.

Example: Assuming that the subject was post-absorptive at the time of the MVA and his BAC was 0.09% 90 minutes after the MVA, what was the BAC at the time of the accident? **Solution:** During the 90 minute post-accident period, the subject's BAC fell about 0.023% (1-1/2 hours x an elimination rate of 0.015% per hour). Therefore, his BAC at the time of the accident was about 0.11%. *Note: The most frequently reported average rate of elimination for adult males is 0.015% BAC per hour.*

Example: Assuming the same facts and a second BAC test result of 0.04% four hours post-MVA, what is the highest reasonable estimate of the subject's BAC at the time of the accident? **Solution:** Assuming that the subject's apparent decline in BAC between the two post-MVA tests reflected the subject's true rate of elimination (0.05% over 2-1/2 hours) at prior times, the apparent rate of elimination would be 0.02% per hour. Therefore, the subject's true BAC at the time of the accident (90 minutes before the first BAC test) would be 0.12%.

Forward extrapolation: Forward extrapolation is based on the analysis of factors that include the time(s) of alcohol service and consumption as well as the time-course and extent of the absorption, distribution, and elimination of alcohol. An alcohol test result is not required; but, when available, the extrapolated BAC and any available BAC test result(s) should be compared.

Range extrapolation: A process that explicitly considers all of the reasonable variables affecting the reliability of the factors involved in the extrapolation of the person's BAC.

Clinical indicia: Depending on the case-specific circumstances, clinical indicia (i.e. visible and/or obvious signs) of intoxication might include witness testimony regarding the subject's appearance-behavior-demeanor. Indicia of intoxication can sometimes be related to an estimate of the subject's BAC. One of the more novel approaches is a type of retrograde psychophysical extrapolation based on post-consumption observations or post-accident field sobriety tests.

Effects of alcohol

Expert case-analysis regarding whether or not the subject would be expected to exhibit visible or obvious indicia of intoxication should include the consideration of all reasonable-and-relevant points of comparisons. Three examples follow.

Impairment Estimation Procedure (IEP)

While a recent study suggests that a behavioral-based Impairment Estimation Procedure (IEP) can be used to estimate BAC as well as alcohol impairment, the results are not conclusive.

IEP cues for severe impairment seem extreme. Examples include A) social interaction that is uncontrolled (e.g. urinating), hostile (e.g. cursing), withdrawn (e.g. reclusive), or confused (e.g. loss of memory); B) physical appearance that is sloppy (e.g. slovenly); and, C) motor coordination that is stumbling (e.g. weaves or falls) or fumbling (e.g. shaky).

IEP cues seem to improve the likelihood that the moderately impaired person will be identified. However, the use of IEP cues (and, presumably, responsible beverage service practices) does not ensure the identification of the moderately impaired patron. Some patrons who are chemically impaired (based on BAC) may be difficult to detect ... presumably due to an acquired tolerance to alcohol or learned behavior intended to avoid detection as visibly or obviously intoxicated.

One study reports 32 cues that were observed while assessing the reliability of IEPs including speaking very loudly, unusual or expanded gestures, and flushed or red-faced. It may be helpful to compare a list of cues with case-specific facts or testimony.

Tolerance to alcohol

One of the few clinical studies regarding tolerance at high BACs was reported in the Journal of Forensic Science. A summary follows: 110 consecutive alcoholics who voluntarily entered a detoxification center were studied to determine their ability to perform certain designated functions (a) while under the influence of alcohol at admission and (b) four days later, after they had undergone detoxification. The findings indicate that alcoholics develop an increased tolerance to alcohol at BACs that are extremely high including levels generally considered potentially fatal.

Witness testimony

The deposition testimony of witnesses often seems to provide information favorable to the defense; and, at trial, deposition testimony is often the defendant's best "*home base*". For both plaintiff and defendant, the approach to taking the deposition of witnesses is very important!

Case exhibits for mediation or trial

Well prepared exhibits can focus attention on allegations, relevant case law, case-specific questions, the state of the evidence, implicit or explicit assumptions relied on by an expert witness, reasonable alternative explanations, and case analyses! **It has been said that well prepared case exhibits resemble very effective story-boards.**

Case exhibits should be consistent with the case evidence, related legal issues, and analysis of the adversary's allegations and/or reliance on case assumptions-analyses-and-predictions, as well as your written and oral argument. Common aspects include the following:

Orientation - Allegation - Evidence
Assumption - Analysis – Prediction
Focus on Reasonable Alternatives

Expert review and preparation for testimony … and potential consulting assignments

Most experienced experts recommend the following approach to case review-consultation and testimony:

- Case-review should be started earlier rather than later; and you should discuss options with your expert or consultant prior to deposing individuals regarding alcohol-related or drug-related issues.

- The expert should review all of the relevant case materials including entire transcripts of all relevant deposition testimony and the deposition exhibits.

- The disclosure of an alcohol expert or the expert's anticipated testimony or written report should be done as late as possible.

- Decisions regarding the need for, approach to, and timing of depositions of adversarial experts should be discussed with both your expert and your consultant.

- Focus on the cornerstones of expert trial testimony including the introduction, orientation to the case, qualifications, case materials, relevant background, case analyses, defensible opinions, and related case-foundation. And special attention should be paid to the anticipation of likely cross-examination!

- Trial exhibits relating to the time-course of alcohol consumption or the rise-and-fall of BAC curves or the estimation of BACs at specific times should be presented as blank templates … to be completed by the expert.

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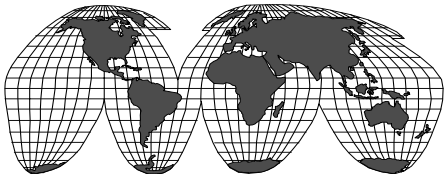
Specializing in Toxicology

Brian E. Pape, Ph.D. **Ph: (800) 736-0503**

CASE CONSULTATION

An Illustration: Toxic Tort

Information . . . Ideas . . . the Internet



Case: The expert who was *NORMLized*

Fact: The pharmacologist's written report regarding the effects of marijuana seemed a little contrived but scientifically defensible … and he was very well qualified … and he was an experienced expert witness. His "problem" was found on the Internet:

Fact: An Internet search for the doctor's name found over 100 references. Yes … you're right … he was a member of the Board of Directors of NORML, the National Organization for the Reform of Marijuana Laws. He was clearly associated with the group's political, social, legislative, and scientific positions.

Case: Dr. X … *Sauna Man*

The plaintiff's case was relatively strong: She had been in excellent health; she had no history of allergy or immunologic deficiency; her acute chemical exposure due to a misapplication of a solvent-pesticide aerosol was well documented; and her acute-care medical records were consistent with chemical intoxication. **The experts disagreed regarding her alleged residual immunologic deficiencies, multiple chemical sensitivities, treatment recommendations, and long-term prognosis.**

Treatment became a big issue: The plaintiff's treating physician insisted on a *clean house*, a chemical-free diet, and heat treatments. Defense counsel geared-up for trial including the cross-examination of the plaintiff's expert, a "clinical ecologist". **The defense expert searched the Internet. Based on the findings, defense counsel settled on a code-name for the expert: *Sauna Man*.**

Sauna Man was chosen as a code name for the expert because of his prior medical opinions regarding clinical ecology and chemical detoxification including the use of heat treatments and water fasts. Unfortunately for the expert, his case-specific prescription of therapeutic saunas contributed to putting him in *hot water*.

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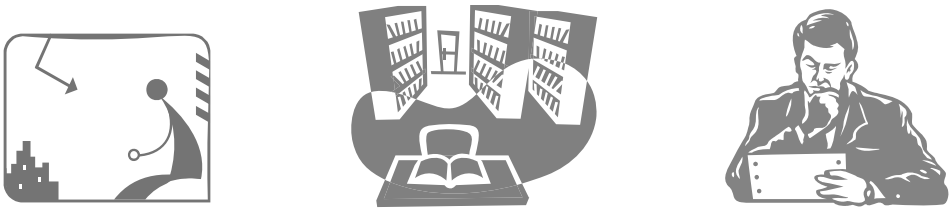


Finding – Retrieving – Reviewing – Explaining – Applying

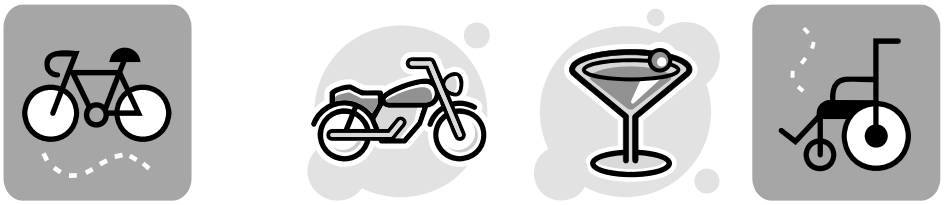
Scientific Reports

LITERATURE REVIEW AND RELATED SERVICES

Given the case-specific facts and legal issues, Dr. Pape will search-recover-review-and-summarize relevant scientific literature and illustrate the application of scientific studies to case analysis, the formulation-presentation-defense of case opinions, and the appropriate cross-examination of an expert witness

The consultation process is much more than providing written materials and answering questions. The goal is to add to your competence, confidence, and presentation of case-relevant scientific issues … including your ability to effectively use science when examining an expert witness.

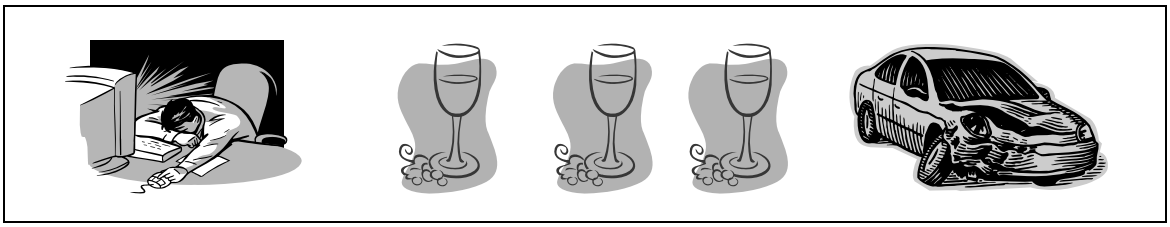
Call Dr. Pape to discuss your case and a potential assignment.



Alcohol and Cycling Accident

A comparative analysis of alcohol in fatal and nonfatal bicycling injuries.

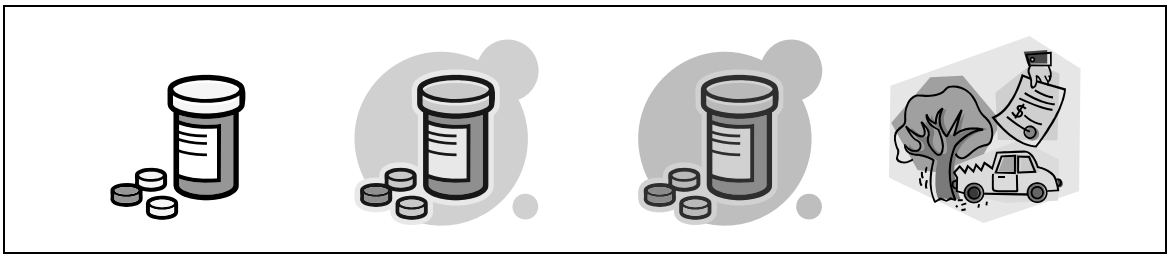
Bicycling is the leading cause of recreational injury, resulting in more than half a million emergency department visits and about 900 deaths each year in the United States. The fatal cases were more likely than the nonfatal cases to have positive BACs (30% vs. 16%, p < 0.01) and to be legally intoxicated (i.e., BACs > or = 0.10%) (22% vs. 13%, p < 0.01). For both fatal and nonfatal cases, intoxication was more prevalent among victims who were male, aged 20 to 39 years, or who were injured at nighttime (7:00 PM to 6:59 AM). Bicyclists who died at the scene were four times as likely as those who died at hospitals to be legally intoxicated (35% vs. 9%, p < 0.02). Given a serious bicycling injury, intoxication was associated with significantly increased likelihood of fatality, with an adjusted odds ratio of 2.8 (95% confidence interval, 1.3 to 6.3).



Alcohol – Fatigue - MVA

Low levels of alcohol impair driving simulator performance and reduce perception of crash risk in partially sleep deprived subjects.

Mean blood alcohol concentration on the alcohol night was 0.035 +/- 0.015 g/dL. Compared with conditions during partial sleep deprivation alone, subjects had more microsleeps, impaired driving simulator performance, and poorer ability to predict crash risk in the combined partial sleep deprivation and alcohol condition. Women predicted crash risk more accurately than did men in the partial sleep deprivation condition, but neither men nor women predicted the risk accurately in the sleep deprivation plus alcohol condition. CONCLUSIONS: Alcohol at legal blood alcohol concentrations appears to increase sleepiness and impair performance and the detection of crash risk following partial sleep deprivation. When partially sleep deprived, women appear to be either more perceptive of increased crash risk or more willing to admit to their driving limitations than are men. Alcohol eliminated this behavioral difference.



Drugs – Impairment – MVA

Psychoactive substance use and the risk of motor vehicle accidents.

The main outcome measures were odds ratios (OR) for injury crash associated with single or multiple use of several drugs by drivers. The risk for road trauma was increased for single use of benzodiazepines (adjusted OR 5.1 (95% Cl: 1.8-14.0)) and alcohol (blood alcohol concentrations of 0.50-0.79 g/l, adjusted OR 5.5 (95% Cl: 1.3-23.2) and >or=0.8 g/l, adjusted OR 15.5 (95% Cl: 7.1-33.9)). High relative risks were estimated for drivers using combinations of drugs (adjusted OR 6.1 (95% Cl: 2.6-14.1)) and those using a combination of drugs and alcohol (OR 112.2 (95% Cl: 14.1-892)).

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Case Consultation

Examination of an *adversarial* expert

Case-decisions regarding deposition, voir dire, and cross-examination at trial

Case-evaluation and case-strategy are two important considerations when an attorney is deciding if-when-how to examine an *adversarial* expert. When considering these and other case-specific options, counsel will usually benefit from a discussion with an experienced liquor liability expert.

Expert deposition
There are at least three good reasons to consider deposing an expert:

- You know little or nothing about the expert's approach to case-analysis and his/her ability to defend the approach taken, case-assumptions, case-calculations including BAC and TAC, and knowledge of and/or reliance on scientific studies.

- You want to establish the nature, scope, and limits of the expert's case-analysis as presented in a written report and/or you want to "marry" the expert to a flaw in the case-analysis or written report.

- You want to settle the case and hope to indirectly affect the negotiations by diminishing the perceived impact of the expert's testimony.

When should the expert be deposed? As a general rule, as late as possible ... after you have obtained a detailed report or exhausted all related attempts to define the expert's opinions and/or anticipate the expert's testimony as well as the expert's reaction to deposition questions.

Voir dire
A voir dire is an under-utilized technique. While you might be hesitant to disclose your approach to cross-examination at a pre-trial deposition, you should be much less concerned when conducting a voir dire.

What's in his file?	*What's not there?*
What has he done?	*What has he charged?*
What does he know?	*How does he react?*

Compared to a discovery deposition, a well-devised voir dire can have a much greater impact. The expert is usually not able to effectively rehabilitate his/her lack of case-specific knowledge or approach to case-analysis: *"Isn't it true that when I questioned you about 20 minutes ago, you were not able to …?*

Cross-examination
The effectiveness of your examination is based in large part on your preparation, your anticipation of the content of expert's testimony, the expert's usual behavior, your confidence, the use of control techniques, and a goal of providing the members of the jury with both information and explanation.

Does your cross-examination of the expert reflect a consistent case-strategy that includes ways to effectively present information about the witness's … ?

Qualifications
Knowledge of case-specific facts
Focus (i.e. what he did and did not do)
Implicit and explicit assumptions
Disregard for case-relevant factors
Gaps in testimony re relevant issues
Accuracy when describing the case analysis

Do you visualize and then construct a cross-examination that is organized, understandable, easy to follow, relevant, to the point, interesting-informative-and-illustrative, and persuasive?

Are you able to control the expert?

Are you familiar with the scientific literature, the expert's implicit or unspoken assumptions, and the expert's usual appearance-behavior-demeanor … such that you can confidently and effectively use techniques to control the expert? Are you able to effectively use different types of questions to control both the flow of the examination and the expert's response to the particular question?

Isn't it true that …
Are you able to …
Are you familiar with …
Why didn't you tell the members of the jury …
Have you ever published anything in …
Did you …

Are you able to follow-up?

Isn't that because …
Would you agree with a statement that …
Let's review …

Do you practice and test your trial skills?

Think through example outlines of case-specific questions-and-answers, your reaction to potential adverse answers, techniques you can use to maintain or regain control of the witness and/or focus on your strategic "home-base", follow-up questions and/or illustrations, checklists used to ensure that you have provided the jury with necessary information, and a strong closing.

Elements Key to an Effective Cross-examination

Preparation - Anticipation - Knowledge - Control

Science based examination and case evidence

Examination of an expert witness should be based on generally accepted scientific principles, relevant scientific studies, and the case evidence or reasonable hypotheticals.

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Dr. Brian Pape is the principal consultant with Pape & Associates, specializing in toxicology and related sciences. His professional experience includes the following:

- Associate Professor of Pathology (*Clinical Appointment*), University of Massachusetts School of Medicine.
- Senior Associate Consultant for Mayo Clinic (Rochester, MN) and Director of Toxicology at New England Toxicology Services (Woburn, MA).
- Director of Toxicology and Associate Professor, Department of Pathology, University of Missouri School of Medicine.

Dr. Pape has published more than 50 research papers, abstracts, and professional articles relating to alcohol and drugs, pesticides and toxic chemicals, analytical chemistry, forensic science, and general toxicology. He authors the *Toxicology Reporter*.

He has served as a technical and expert consultant to business, labor, and governmental agencies. He has been qualified as an expert in toxicology and related sciences in State and Federal Courts.

Dr. Pape has been board-certified by the American College of Forensic Examiners (BCFE) and the American Board of Forensic Medicine (BCFM).

He has been qualified on more that 100 occasions in State and Federal Courts. His case testimony has included liquor liability, alcohol and drug related testing-effects-and-accidents, laboratory testing, toxic torts, and product liability.

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