



E11 Jurors' Right to Question Testifying Expert Rights Lawyers' Wrongs

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The goal of this presentation is to discuss the Widmark Formula which is the generally accepted method to calculate blood alcohol concentrations (BAC); Litigators should provide their expert with all toxicology data available; Jurors' questions can improve the quality of justice and compensate for questions not asked by the litigators.

This presentation will impact the forensic community and/or humanity by describing jurors' questions which can improve the quality of justice and compensate for errors made by the litigators in withholding data from testifying experts, or not asking key questions.

In the Commonwealth of Massachusetts, judges may permit jurors to question testifying experts about un-resolved issues not covered in direct testimony or cross-examination. At the conclusion of the expert's testimony, some Superior Court judges ask jurors if they have any questions to ask of the forensic expert. If so, the jurors are asked to write down their questions and submit them to the court. The judge calls the lawyers over to a side bar and reviews the questions with the attorneys. If one party has an objection to a question, it is raised at side bar, if both parties agree on a question, it is read to the expert by the judge and the expert has an opportunity to respond. The advantage of allowing jurors to question experts is proven by the results of a recent trial in which this author served as an expert for the defense on the toxicology of ethanol. The case involved a Dram Shop litigation. Dram Shop cases involve an allegation that a restaurant or bar served liquor to a patron who was already exhibiting visible signs of intoxication at the time that drink was served, and that patron then left the establishment and drove a motor vehicle that was subsequently involved in an accident where personal injury and/or property damage occurred. If it is proven that the patron was visibly intoxicated at the time the liquor establishment served him/her ethanol, then the bar or restaurant is civilly liable for the damages caused by the intoxicated driver.

Facts of the case: JA was a middle-aged male with a long history of alcohol abuse. On the night in question, JA was drinking at a local pub. During the course of the evening, JA left the bar with a friend, purchased a fifth of Jack Daniels, and returned to the bar where he met another friend. JA left the bar with the second friend and while driving around, they encountered two women who were "looking for company." JA got out of the car to join the women. Several hours later, JA was found on the street, barely able to crawl or talk. Paramedics were summoned to the scene and JA was taken to the hospital reeking of liquor and only semiconscious. JA subsequently developed respiratory depression and anoxic encephalopathy (brain damage due to lack of oxygen) secondary to ethanol intoxication. On admission, JA's blood alcohol concentration (BAC) was determined to have been approximately 0.450%, a nearly fatal level consistent with respiratory depression and brain damage. The question for the jurors to determine was whether or not an intoxicating amount of ethanol had been served to JA and consumed by JA while he was in the bar, or whether JA had consumed ethanol he had purchased, after he left the bar.

Testimony from patrons at the bar indicated that JA had consumed about 4-5 beers over 2 hours at the bar, and no patron was able to testify that JA had appeared visibly intoxicated while in the bar. The expert for the plaintiffs calculated JA's BAC using a calculation for total body water and the combined amount of ethanol consumed over a 2-hour time. In performing these calculations, plaintiffs' expert used a "burnoff" rate of 0.015% per hour, an assumption based on burn-off rates in the general population which range from 0.01 to 0.025% per hour. A lower burn-off rate would tend to yield a higher calculated BAC thus skewing the resulting calculation in favor of the plaintiffs and bolstering plaintiffs' expert's opinion that JA had consumed enough ethanol in the bar to cause visible signs of intoxication, despite the fact that no patron testified that JA had appeared visibly intoxicated in the bar. This author testified as an expert for the defendant bar, and calculated JA's BAC using the Widmark formula, the generally accepted method in the forensic toxicology community, using a burn-off rate of 0.02% per hour, a value published in the literature as a more representative burn-off rate for individuals accustomed to frequent ethanol consumption. These calculations indicated that JA's BAC would have been well below the 0.15% generally accepted by the forensic toxicology community as that BAC at which signs of visible intoxication would be present in a nontolerant individual.

After completing direct and cross-examination, the court asked jurors if they had any questions. Unbeknown to this expert, serial BAC determinations had been obtained by the hospital, in order to monitor the decrease in JA's BAC. The jurors asked if the burn-off rate could be calculated from the serial BACs obtained. The judge posed the question to this expert and complimented the jury on asking an important question the litigators had failed to ask. The judge provided the following data: at 1:30 am, the



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BAC was 0.406% and at 6:30 am, the BAC was 0.301%. The burn-off rate can be calculated by calculating the change in BAC and dividing that number by the amount of time that transpired. The change in BAC was: $0.406 - 0.301 = 0.105$, and the time interval was 5 hours. 0.105 divided by 5 yielded a burn-off rate of 0.021% per hour, almost exactly what this expert had assumed (0.02%) and more than 33% higher than the burn-off rate plaintiffs' expert had employed. The calculations the jurors had requested validated this expert's assumption with regard to burn-off rate and discredited plaintiff's expert. The jurors found no negligence and returned a defense verdict. Jurors' questions can improve the quality of justice and compensate for errors made by the litigators in withholding data from experts or not asking key questions.

Jurors' Questions for Experts, Dram Shop Litigation, Ethanol "Burn-Off" Rate