

## Cross Examination of Computer Assisted Reconstruction

by John Kwasnoski

An increasing number of crash reconstructionists are relying on commercial software packages to conduct their collision analyses. The computer output can be in the form of spreadsheets, charts, graphs, time lapse drawings, and even simulations of vehicle motions and crashes. A simulation program creates evidence by predicting how the vehicles will engage, separate and move to their final rest positions. What is true for any computer software program is also true for computer-generated crash simulations. The output is only as accurate as the data that was entered. Therefore, it is essential that prosecutors scrutinize what data was entered (the "input data") to create the computer re-enactment of a crash. Input data consists of information such as, pre-impact vehicle speeds, directions of travel, point of impact, vehicle specifications, etc. When evaluating the accuracy and hence the admissibility of any computer simulation, be sure to ask:

- Is the input data based on actual physical evidence?
- Which input data are based on assumptions made by the user (reconstructionist)?
- What input data are "default" data selected by the computer rather than the user?
- Was the program run to its completion (until all vehicles stopped)?
- Was the software misapplied to a situation that violated the conditions of the program?

In a recent case, a popular simulation software program was misapplied to a collision involving a car that veered into a ditch and struck a tree. The user's manual specifically stated that "going into a ditch or off an embankment is completely beyond the scope" of the software. The defense expert had modeled the tree as a 3 foot square, 50,000 lb. "car" because the software could not simulate a 9 inch diameter tree. In addition, the defense expert terminated the program before the car stopped to avoid showing a final rest position that would have contradicted his own opinion. These errors were discovered and revealed to the jury by a thorough cross examination.

The user's manual may warn of potential areas of misuse or limitations of the program. The input questions will signal to you where the defense made assumptions. Get the complete printout of the program and the user's manual during discovery and share them with your expert.

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## NDA Supports .08 Per Se Laws

The National District Attorneys Association recently passed a resolution supporting the passage of .08 per se laws in all states, territories and the District of Columbia. Currently fifteen states have .08 per se laws. Studies show that a .08 per se law is an effective tool in reducing alcohol-related vehicular fatalities, especially when the law is used in conjunction with other impaired driving laws such as administrative license revocation. One recent study showed significant decreases in alcohol-related fatal crashes in four of five states after passage of .08 per se laws. Another study found that the case loads of prosecutors and law enforcement were only minimally effected by the law. Contact NTLC for these and other studies on .08 per se laws.

## The Impaired Bicyclist: A Recreational Hazard

A recent study suggests alcohol plays a significant role in fatal and serious bicycling injuries. A Johns Hopkins study compared over 300 fatal and non-fatal bicycle collisions. Researchers found fatally injured cyclists were nearly twice as likely to have been drinking than the non-fatally injured cyclists. Alcohol was a factor in at least a third of the deaths. The study's lead author, Dr. Guohua Li, believes alcohol may have an even greater impact on cyclists than motorists due to the physical coordination and concentration required for biking.

### Does HTN Test Vision?

No. A police officer's purpose in giving the horizontal gaze nystagmus field sobriety test is to determine whether the driver is impaired and to measure the extent of that impairment - it is not intended as a vision test! When all six clues are present, there is a substantial likelihood that the driver's BAC is at or above .10.

Does nystagmus affect vision? Yes. The inability of the eye to remain steady when looking at an image causes the image to blur. As nystagmus increases, visual acuity decreases. However, the studies correlating nystagmus and vision have been conducted on small, detailed images. A person with nystagmus should not have difficulty in focusing on or tracking large moving objects, such as pedestrians or cars, due to their size and relatively slow speed. Most persons with alcohol induced nystagmus are totally unaware that they have it.

### ASK DOCTOR TOX

**Q:** Why can a sample of a person's breath measure the amount of alcohol in that person's blood or brain?

**A:** The amount of alcohol (ethanol) in the deep lung (alveolar) air is in equilibrium with the amount of alcohol in a person's blood plasma at any given time. Blood plasma continuously circulates in the brain, therefore, the brain is exposed to the same concentration of alcohol

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