



**Seized Drugs**  
**Training Guide for Testimony**  
Comparative and Analytical Division



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1. SYLLABUS AND CHECKLIST

TRAINING SYLLABUS AND CHECKLIST  
FOR TESTIMONY

<u>Topics</u>	<u>Date of Receipt or Completion</u>	<u>Trainer &amp; Trainee Initials</u>
Observation of analysts' testimony throughout the training period	N/A	N/A
Independent Reading	_____	_____
Review following sections:		
Training Guide Testimony Material	_____	_____
Quality Manual Testimony Monitoring	_____	_____
Practice answering court questions with Trainer	_____	_____
Review of testimony transcripts and mock trial tapes	_____	_____
Mock trial (in-house) with review	_____	_____
Trainer		
Approval _____	Date _____	
Section Manager		
Approval _____	Date _____	
Quality		
Approval _____	Date _____	



## 2. TESTIMONY READING LIST

### TESTIMONY READING LIST (to be initialed when completed)

- \_\_\_\_ 1) R. Saferstein editor, Forensic Science Handbook, Vol. 1, 2<sup>nd</sup> Ed., 2002.  
Ch. 1 – “Legal Aspects of Forensic Science”
- \_\_\_\_ 2) J.E. Horsley, Testifying in Court, 1972.
- \_\_\_\_ 3) D. Poynter, The Expert Witness Handbook, 1987.
- \_\_\_\_ 4) “A Practical Guide and General Overview of the Criminal Process – for Crime Lab Analysts/Chemists,” Presentation to the HPD Crime Lab by ADA Suzanne Hanneman, July 1, 2008.
- \_\_\_\_ 5) “Court Testimony – Being an Expert Witness,” Presentation to the HPD Crime Lab by Robin Cotton Ph.D., June 21, 2006.
- \_\_\_\_ 6) “Justices Rule Lab Analysts Must Testify on Results,” by Adam Liptak, *The New York Times*, June 26, 2009.
- \_\_\_\_ 7) “Stressing Demeanor Credibility: Continued Impacts of Melendez-Diaz for Forensic Scientists,” by Ronald K. Bullis Ph.D., J.D., *Forensic Magazine*, February 10, 2012.
- \_\_\_\_ 8) “Training on Daubert Hearings Presented by the Houston Police Department Crime Lab Division,” by Carla Young, Division Counsel Bureau of ATF and Andrew Lange, Staff Attorney Bureau of ATF, February 21, 2006.



### **3. OBJECTIVE AND DISCUSSION**

#### **OBJECTIVE**

- To familiarize the trainee with courtroom proceedings in a criminal case.
- To familiarize the trainee with proper methods of presenting expert testimony during trial.

#### **DISCUSSION**

"Expert Testimony" is defined as ". . . the opinion of a witness who has special knowledge, wisdom, skill, or information regarding a subject of inquiry, acquired by study, investigation, observation, practice or experience, and not likely to be possessed by the ordinary layman or inexperienced person incapable of understanding the subject without the aid of some person having such special knowledge." (Robert L. Donigan and Edward C. Fisher, *The Evidence Handbook*, Traffic Institute, Northern University, p. 147.)

As an expert witness, a person is permitted a greater latitude in responding to questions than an ordinary witness. The analyst may render opinions in their field of expertise, provided those opinions are drawn from experience and observations. It is wise, however, to keep in mind the limits of a person's experience. One should not allow them to be led too far afield into areas just outside their personal expertise (i.e., drug effects, toxicology, street doses, street prices, sociological questions, etc.).

How does a person become an "expert witness"? Education, training, and experience in drug identification are some relevant factors in assessing a witness's expertise. Only a presiding judge, at the trial itself, can rule on the qualifications. The prosecuting attorney will carefully lay out the qualifications during direct examination. The defense attorney may challenge these qualifications, and the judge must decide if the qualifications are sufficient. It is at this point that first impressions become all important.

The first thing to consider is the matter of appearance. Personal clothing should be neat. Coats and ties for male analysts are a necessity. Women should, likewise, dress in a conservative, business like fashion. The jury or potential jurors attach significant importance to the attire and appearance of the forensic expert. Another facet of appearance is the personal demeanor while on the witness stand. One should be careful not to rock or swivel unnecessarily and to avoid any personal idiosyncrasies and/or nervous habits, such as playing with the case file or parts of clothing, nervous twitches, etc.



The manner of answering questions is also important. Answers should be delivered in a moderately pitched, calm voice, slowly and loudly enough to be understood, yet not so slowly as to seem hesitant. Answers should be directed to the jury as much as possible. Good eye contact should always be maintained. In the final analysis, the jury will decide the outcome of the case on its merits. If called upon to explain a scientific concept, such as IR or TLC, the expert witness should do so in clear layman's language.

The main purpose of testimony by a forensic analyst is to convey to the jury or judge the veracity and completeness of the testing procedures, not to confuse them. It is vital that the analyst formulate in their own mind a clear, concise explanation of these techniques, which can be readily understood by laymen of average intelligence. In other words, any appearance of lecturing the jury should be avoided. When answering questions posed by the attorneys or the court, one should always be courteous. The use of "Your Honor" when referring to the judge or "sir" or "ma'am" when answering the attorneys is desirable and appropriate.

Response to cross examination should be polite, firm, and not over expansive or argumentative. One should never argue or be nasty, sarcastic, or trifling with defense counsel. If the answer to a question is unknown, one should not hesitate to reply so. One should fully understand any questions posed by counsel. If a witness is not certain, it is proper to ask for a repetition or rephrasing (Would you please repeat/rephrase the question?). If an answer to a question requires some thought, one should not be afraid to hesitate before answering. In many instances, it is important to hesitate for at least half a second before answering in order to permit the prosecutor to object if the analyst feels it necessary.

During vigorous cross-examination and heated exchanges with defense counsel, one should not hurry answers or raise one's voice. Instead, a witness should make an effort to remain calm. Frequently, a question may be asked for which counsel demands a yes or no answer, i.e., "Is it fair to say (or is it not so) that TLC is not specific for LSD?". In such a case, it may be necessary to state that this question cannot be answered by a simple yes or no answer. The judge will usually allow an explanation to the answer. The purpose of an expert witness is to enlighten the court on matters within the field of expertise. In order to discharge this responsibility, questions must be answered fully. If yes or no fails to achieve these objectives, one should not hesitate to indicate to the court that the question cannot be answered with a yes or no response.

During both direct and cross-examination, there are a number of things to remember. Again, one should always be courteous when either side raises an objection during testimony. The witness should immediately stop and proceed only upon direction and instructions of the court.



Certain phrases should not be used such as:

"To tell you the truth, . . . .

"Frankly, . . . .

"To be honest, . . . .

"I think . . . .

"I believe . . . .

These and any other casual, flippant terms and phrases should be avoided.

During the direct examination, the prosecutor will first establish the qualifications of the witness. Once the witness has been qualified, the prosecutor will attempt to introduce the evidence and elicit the results of analysis. By the time the analyst is called to the stand, the agents or police officers in the case normally will have already testified as to the circumstances under which the drug was purchased, transferred, or seized, and what preparations they made to deliver the evidence to the laboratory. The first question, will usually establish the chain of custody, -- how the exhibit came into the possession of the analyst. "How do you know this is the exhibit you worked on?" The importance of labeling and initialing the evidence envelope or other container is clearly seen at this stage of the trial. The analyst may be asked to break open the seals and withdraw the evidence or the evidence may have been previously opened by the agents. The next question will ordinarily concern the analysis, -- "What did you do upon receipt?" "What did you find?", etc. Often, the prosecutor will not ask how the analysis was performed, preferring to leave that questioning for the defense.

It is a good rule, in most instances, to answer only the questions posed and nothing more, unless called upon to give explanations. One should not volunteer information.

In addition to the role as expert witness, an analyst may serve as an advisor to the prosecuting or defense attorney. This assistance can take various forms. In most instances, the prosecuting attorney will wish to hold a pretrial conference. Although the analyst appears only occasionally at these conferences, they can be extremely helpful, particularly if the prosecutor is inexperienced or is not acquainted with the witness. In such cases, it is frequently helpful for the analyst to present a resume/qualification sheet and list of questions to serve as a source for the direct examination. In many instances, since the forensic analyst's testimony is relatively straightforward, the pretrial conference may consist of a telephone conversation with the prosecutor.

Occasionally, after testimony, the analyst may become aware of flaws or additional facts that were overlooked by the prosecutor or that were brought up in cross-examination by the defense attorney and require further clarification. Any such instances should be brought to the prosecutor's attention in a discreet, diplomatic manner as soon as the situation allows.



The expert witness must be impartial at all times. Nothing can destroy the credibility of an expert witness as rapidly as an impression on the part of the jury that the witness has a strong interest in the outcome of the trial. The impartiality of the analyst begins in the laboratory. Above all, the analyst must maintain a completely open mind as to the nature of every exhibit. It is possible that a person has been falsely accused. It may also be possible that no controlled substance is present. In such an instance, it is the obligation of the analyst to report this fact and no court action should ensue. In most cases, a drug trial will not begin unless an analyst has reported the presence of a controlled substance or dangerous drug.





#### 4. DEFINITIONS

The following are some general definitions which may be useful to a controlled substance analyst. These are in addition to the definitions listed in Chapters 481-485 of the Texas Health and Safety Code.

- **Addiction** - Drug addiction is a state of periodic or chronic intoxication produced by the repeated consumption of a drug. Its characteristics include:
  - An overpowering desire or need (compulsion) to continue taking the drug and to obtain it by any means;
  - A tendency to increase the dose;
  - A psychic (psychological) and generally a physical dependence on the effects of the drug;
  - An effect detrimental to the individual and to society.
  
- **Alkaloid** - Group of basic, nitrogenous plant products which have marked physiological action. The majority of these are complex heterocyclic compounds.
  
- **Analgesic** - Insensibility to pain without loss of consciousness; pain killer.
  
- **Anesthetic** - Causes loss of sensation with or without loss of consciousness.
  
- **Anorectic** - Causes loss of appetite.
  
- **By-Products** - Compounds found in addition to the compound of interest after a chemical reaction or an extraction.
  
- **Central Nervous System (CNS)** - The brain and spinal cord.
  
- **Central Nervous System (CNS) Depressant** – A substance that lowers the heart rate, respiration, and blood pressure. Medical uses include the treatment of anxiety, tension, and high blood pressure.
  
- **Central Nervous System (CNS) Stimulant** – A substance that increases the heart rate, respiration, and blood pressure. Medical uses include the treatment of mild depressive states, overweight and narcolepsy, a disease characterized by an almost overwhelming desire to sleep.
  
- **Criminalistics** - The science which involves the application of the physical sciences (e.g., chemistry, physics, biology) to the investigation of crime.



- **Dependence** - Drug dependence is a state of psychological or physical dependence or both, which results from chronic, periodic, or continuous use of a drug.
- **Felony** - A grave crime declared to be a felony by the common law or by statute regardless of the punishment actually imposed. Felony cases will be tried in a State court.
- **Forensic Science** - Forensic science is a broad term denoting the application of medical, social, behavioral, and other sciences to the administration of justice.
- **Habituation** - A condition, resulting from the repeated administration of a drug, which includes these characteristics:
  - a desire (but not a compulsion) to continue taking the drug for the sense of improved well-being that it engenders;
  - little or no tendency to increase the dose;
  - some degree of psychic dependence on the effect of the drug but absence of physical dependence and, hence, no abstinence syndrome;
  - a detrimental effect, if any, primarily on the individual.

Simplified, habituation is the psychological desire to repeat the use of a drug intermittently or continuously because of emotional reasons.

- **Hallucinogen** - Both natural and synthetic hallucinogens are substances that distort the perception of objective reality. They induce a state of excitation of the central nervous system. A person using hallucinogens will be disoriented, have delusions, and hallucinations.
- **Hypnotic** - An agent that induces sleep.
- **Impeach** - To discredit a witness.
- **Local Anesthetic** - Causes a numbing effect.
- **Misdemeanor** - A crime less serious than a felony. Class A and B misdemeanor cases will be heard in a county court.



- **Narcotic** - Something that soothes, relieves or lulls; drug that in moderate doses dulls the senses, relieves pain, and induces profound sleep but in excessive doses causes stupor, coma, or convulsions (dictionary definition). This term in its medical meaning refers to opium and opium derivatives or synthetic substitutes. They are the most effective agents for the relief of pain and are central nervous system (CNS) depressants.
  
- **Opiate** - A substance that has an addiction-forming or addiction-sustaining liability similar to morphine or is capable of conversion into a drug having addiction-forming or addiction-sustaining liability. The term includes its racemic and levorotatory forms. The term does not include, unless specifically designated as controlled under Section 481.038, the dextrorotatory isomer of dextromethorphan (from Texas Controlled Substances Act).
  
- **Over ruled** - When an objection is over ruled you can answer the question.
  
- **Perjury** - Act of willfully swearing or testifying falsely.
  
- **Physical Dependence** - An adaptive state caused by repeated drug use that reveals itself by development of intense physical symptoms (withdrawal syndrome) when use of the drug is stopped.
  
- **Potentialion** - Occurs when the combined action of two or more drugs is greater than the sum of the effects of each drug taken alone. Potentialion can be very useful in certain medical procedures. For example, physicians can induce and maintain a specific degree of anesthesia by using another drug to potentiate the primary anesthetic agent. Potentialion may also be dangerous. For example, barbiturates and many tranquilizers potentiate the depressant effects of alcohol.
  
- **Psychological Dependence** - An attachment to drug use which arises from a drug's ability to satisfy some emotional or personality need of an individual. This attachment does not require a physical dependence, although physical dependence may seem to reinforce psychological dependence.
  
- **Sedative** - An agent that quiets or calms activity.
  
- **Sustained** - When an objection is sustained, you cannot answer the question.



- **Tolerance** - With many drugs, a person must keep increasing the dosage to maintain the same effect.
- **Voir Dire** - Preliminary examination of witness (e.g., criminalist) in order to determine qualifications and competency, or to examine in depth the chain of custody of the evidence.

The following are abbreviated definitions that could be useful when testifying about certain testing procedures.

- **Pharmaceutical Identification** - Comparison of the markings on tablets, capsules, or containers with recognized sources to make presumptive identifications as to the contents and/or dosage of pharmaceutically manufactured products.
- **Spot Tests** - Series of presumptive chemical screening tests which indicate what type of compounds might be present.
- **Thin Layer Chromatography** - Comparison of adsorption rates of a known and an unknown sample in a solvent system on a silica gel surface.
- **Gas Chromatograph** - An instrument which separates and identifies the components of a mixture based upon their retention times on a separating column.
- **Gas Chromatograph Quantitation** - A quantitation based on the comparison of the areas under the peaks for an unknown sample and a standard.
- **Ultraviolet/Visible Spectrophotometer (UV/VIS)** - An instrument which identifies a sample based on its light absorption pattern. Ultraviolet light at different wavelengths passes through the sample and a graph is produced showing where the light is absorbed. Starting with a known sample weight and a known solvent volume, the percentage of purity can be determined.
- **Gas Chromatograph/Mass Spectrometer (GC/MS)** - An instrumental technique which separates and specifically identifies the components of a mixture based upon their masses.
- **Fourier Transform Infrared Spectrophotometry (FTIR)** - An instrumental technique which identifies substances based upon their unique infrared light absorption patterns.
- **Instrument** - A device that uses scientific principles to make accurate, precise, and repeatable measurements.
- **Machine** - A device that converts energy into motion or motion into energy.



## **5. TESTIMONY MONITORING AND PRACTICAL EXERCISES**

The Trainer will review the appropriate section of the Quality Manual regarding courtroom testimony and monitoring.

### **PRACTICAL EXERCISES**

- Throughout the training period, the trainee should have the opportunity to observe qualified analysts testify in court.
- The trainee should have the opportunity to view tapes of mock trials for previous trainees.
- The trainee should have the opportunity to review transcripts of testimony if available.
- The trainee should practice answering possible direct and cross examination questions in preparation for a mock trial.



## 6. TESTIMONY GUIDELINES AND SUGGESTIONS

The following are suggestions to remember when testifying:

- Look at the jury if an answer is longer than a few words.
- Speak loudly, clearly, and **slowly!**
- Sit up straight, don't lean forward. Don't rock the chair.
- Focus on the question. Answer after the complete question has been asked (provided there is no sustained objection). If you don't understand the question, then say so. If you don't know the answer to the question, say so.
- Avoid technical jargon--use simple terms.
- If appropriate, use approximate when giving weights or percentages.
- If the judge OVER RULES--you can answer the question, If the judge SUSTAINS--don't say anything.
- Don't volunteer information. Answer only the question you are asked.
- Try to remain calm and do not show outward signs of becoming upset. This applies to both direct and cross examination.
- Don't change demeanor or appearance when you are passed for cross examination.
- Be cautious of attorneys that are too friendly or helpful.
- Remember that you are testifying to your opinion as an expert in the analysis of controlled substances. Do not testify or answer questions outside of your training and experience.
- Do not give the impression of being for the prosecution and against the defense (or vice versa). Just testify to facts to the best of your knowledge regardless of who is asking the questions.



## 7. COURT QUESTIONS

- **Direct Examination**

Please state your name.

What is your occupation and by whom are you employed?

How long have you worked there?

What is your title?

What education and training do you have?

Do you belong to any professional organizations?

Have you published any articles or books?

Have you testified as an expert witness before?

Are you certified?

Is your lab accredited? By whom?

What are your duties?

Is it possible to take an unknown substance and determine its identity?

Have you done this on few or many occasions? Approximately how many?

How do you do that?

Let me call your attention to State's Exhibit #1 (evidence envelope) and ask if you can identify it. What is it? How can you identify it?

Does the inventory on the outside of the envelope match with the contents?

What is a submission form? Who prepares it? Does it always match what has been written on the evidence envelope?



When was the first time you saw State's Exhibit #1?

In what condition was it when you received it?

From whom did you receive State's Exhibit #1? Where did they receive it?

Are those business records you are testifying from? Are you the custodian of the records? Are the entries on those records made at or about the time of the event by someone with personal knowledge of the event?

How are samples submitted to your lab?

Are you familiar with the Lock Box? If so, what is it? Where is it located? Who has access to the Lock Box?

What did you do with State's Exhibit #1 after you received it?

Let me call your attention to State's Exhibit #2 (contents of evidence envelope) and ask if you can identify it. What is it? How can you identify it?

Did you have an opportunity to perform an analysis on State's Exhibit #2?

- **Examples of Analysis Questions**

What tests did you perform?

You said you performed a series of spot tests/screening tests. What are they?

What were your results from the spot tests in this case?

Is it possible for different substances to give the same result with a spot test?

You said you ran an ultraviolet test. Please explain how you did that. What were your results for the UV test? Is this a specific test? What other substances can give the same result?

Explain the GC test. What were your results for the GC test? Is this a specific test? How does the GC give you a percent purity?





Explain thin layer chromatography. What were your results for the TLC test? Is this a specific test? What other substances might give you the same result?

Explain FTIR. What were your results for the FTIR? Is this a specific test? What other substances might give you the same result?

Explain GC/MS. What were your results for the GC/MS test? Is this a specific test? What other substances might give you the same result?

Did you form an opinion as to the identity of State's Exhibit #2? What is that opinion?

Is that a controlled substance in the State of Texas? What is a controlled substance?

Did you have an opportunity to weigh the contents of State's Exhibit #2? How much did it weigh? Is that the aggregate weight including any adulterants or dilutants? What is an adulterant or dilutant? Is that a weight that is less than one gram (whatever range is appropriate)?

Did you perform a qualitative (quantitative) analysis? What were your results?

What are the physical effects of the substance you identified?

What did you do with the evidence when you were finished with it?

When was the last time that you saw State's Exhibit #2?

Does it appear to have been tampered with in any way since the last time you saw it?

- **Cross Examination**

Do certain substances have similar chemical compositions?

Is it possible for another substance to have a similar type of reaction or result?

How often are your instruments calibrated?

Would you know if your reagents were contaminated?

Did you test for other controlled substances?



Did you identify the adulterants or dilutents? Why not?

Do you have personal knowledge of where this evidence came from?

Do you have independent recollection of working this case?

How many cases do you open at one time?

How do you secure your evidence?

How do you ensure that other evidence does not come into contact or get mixed with other cases?

Why do you perform so many tests; aren't you sure about what you have?

Is there a margin of error in each test?

Do you work for other agencies?

Are you a State witness? Do you always testify for the State? Are you being paid for your testimony?

Do you know my client? Do you have personal knowledge that this evidence was taken from my client?

Do you know if this evidence was examined for fingerprints? Why wasn't it?

Did you do DNA testing on this evidence? Why not? Could it have been tested for DNA?

- **Examples of Marihuana Questions**

What tests did you perform?

You said you performed a microscopic examination of the plant substance.

What were the results of that examination?

What are some of the features of marihuana that you are looking for under the microscope?

Are you trained as a botanist?

Is this test specific for marihuana?



Is there any other substance that could give you the same result?

You said you performed chemical/spot/screening tests.

What were they?

What were the results of those tests?

What chemicals are contained in the solutions used for those tests?

Did you prepare those solutions?

How do you know the solutions are any good?

How do you know whether or not the solutions are contaminated?

Are these tests specific for marihuana?

Are there other substances which could give the same result?

Did you form an opinion as to the identity of State's Exhibit #2? What is it?

Is marihuana a controlled substance?

How many samples did you take to conduct your tests?

Did you perform an analysis of the rest of the substance?

How do you know that it is all marihuana?

Did you have an opportunity to weigh the contents of State's Exhibit #2?

What was the total weight of the plant substance?

Is that a useable quantity?

Does that include any adulterants or dilutants?



Did you manicure the substance before weighing it?

Does that weight include seeds and stems?

Why didn't you remove the seeds and stems before weighing?

How do you know that the seeds are not sterilized?

What would be the weight without the seeds and stems? Would it be less?



## **8. MOCK TRIAL FORMAT**

It is recommended that the trainee's first mock trial be conducted in-house with the atmosphere as formal as possible. That is, the trainee should dress appropriately and maintain proper demeanor as would be expected in a trial setting. At a minimum, there should be individuals acting as prosecutor and defense to ask direct and cross examination questions. The trainee should provide answers and explanations as if speaking in the presence of a lay jury. Following the completion of the mock trial, those present will provide constructive criticism regarding the trainee's performance. The trainee may be asked to provide clarification statements either orally or written based on his/her answers during the mock trial. The final outcome of the mock trial will be satisfactory or unsatisfactory. If the panel present at the mock trial determines that the trainee's performance was not satisfactory, the trainee will be referred to the Division Director.



## 9. MODIFICATION SUMMARY

ISSUE DATE	CHANGE
Current Version	Modifications to this version include the following changes: Changed "Controlled Substances" to "Seized Drugs" in reference to the name of the section Added the document ID number Removed references to microcrystalline testing
04-16-14	New Format Issue Modifications to this version include: References to HPD and Crime Laboratory updated to reflect management change to the Houston Forensic Science Center and the Forensic Analysis Division References to Quality Assurance Quality Manual abbreviated by QA-QM References to this training guide abbreviated by CS-TG-TESTIMONY Modification Summary added

End of Document