



Current Trends in Legal Challenges to Fingerprint Evidence

Amy Watroba
Assistant State's Attorney
Forensic Science Unit
Cook County State's Attorney's Office

Cook County State's Attorney's Office





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TOPICS WE WILL COVER:

- Types of legal challenges to latent print evidence
 - Challenges to expert's qualifications
 - Challenges to the lab's protocols/procedures
 - Complaints regarding sufficiency of documentation/discovery issues
 - Critiques of examinations/discipline in general
 - Attempts to limit articulation of expert opinions
- What to expect from defense attorneys
 - Discovery
 - Pre-trial preps
 - Pre-trial hearings
 - Trial testimony
- Tips for explaining & defending your opinions at trial

Legal Challenges: Qualifications

- **Pre-trial motions to bar testimony**
 - Lacks qualifications necessary- specifically the knowledge necessary- to render “appropriately balanced and objective forensic opinions”
 - Not a forensic scientist/no science background
 - Would unfairly prejudice the defense by omitting or obscuring deficiencies and gaps in reliability attendant to an outmoded approach to fingerprint comparisons
 - Possibly results in a pre-trial hearing
- **Extended Voir Dire followed by objection to qualification as expert**
 - Could result in exclusion or testifying without being deemed an “expert” by the court

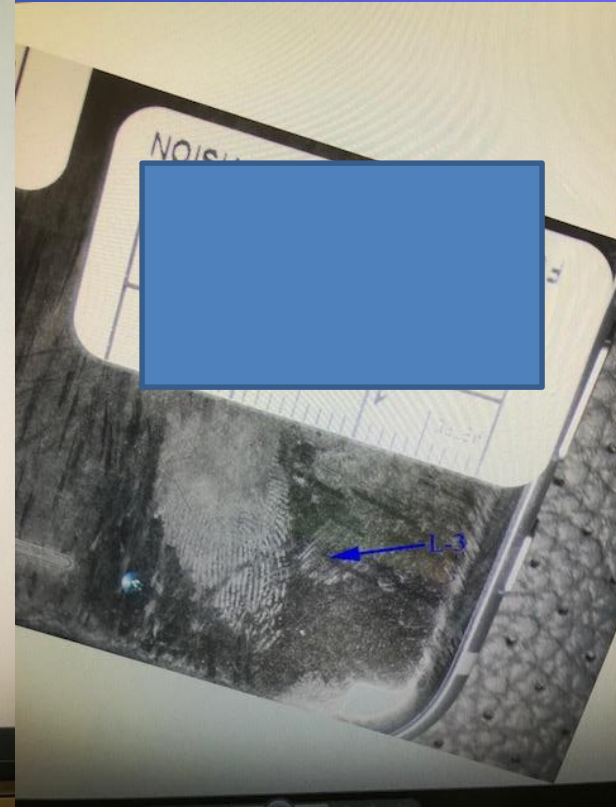
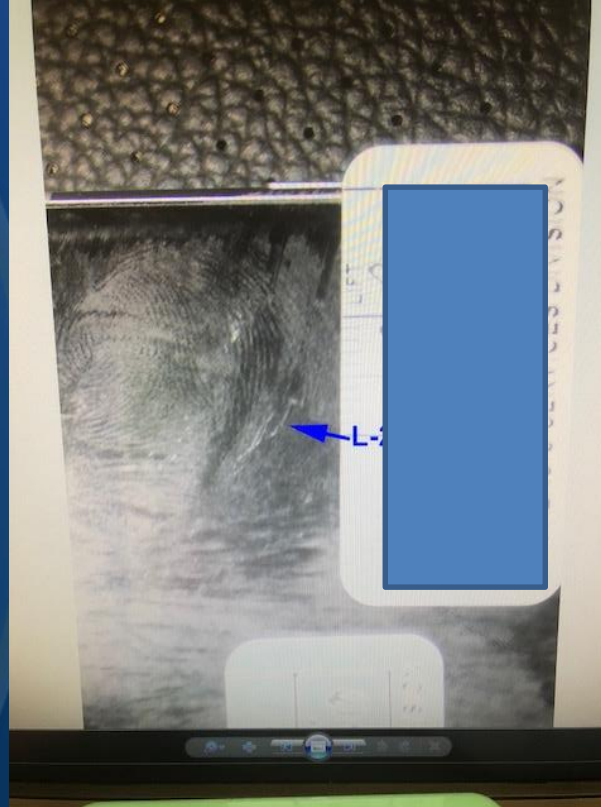
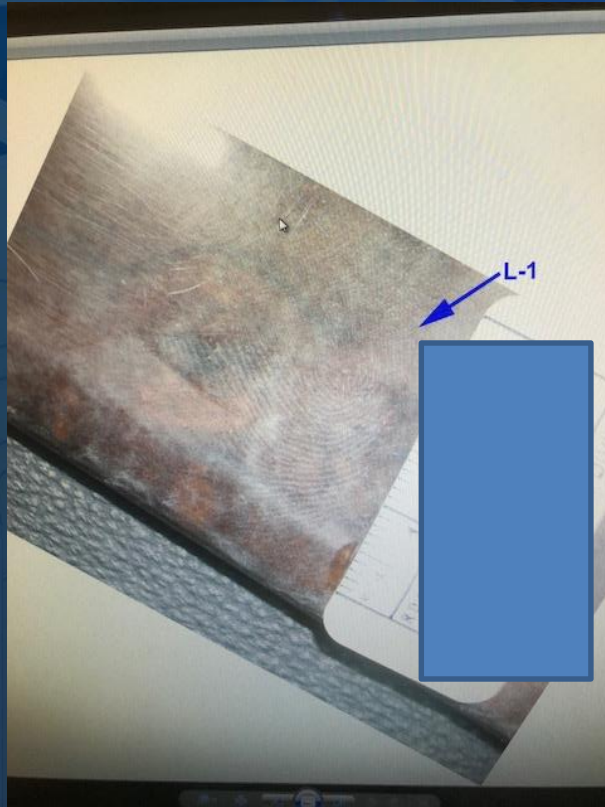
Legal Challenges: Protocols/Procedures

- **Lab as a whole**
 - Lacking in protocols, quality assurance program, accreditation, training programs
 - Does not validate methods used to alter prints
 - Exposure to knowns before analysis of unknowns and general bias issues
- **Particular protocols**
 - Definitions of identification and individualization
 - Documentation/case file contents

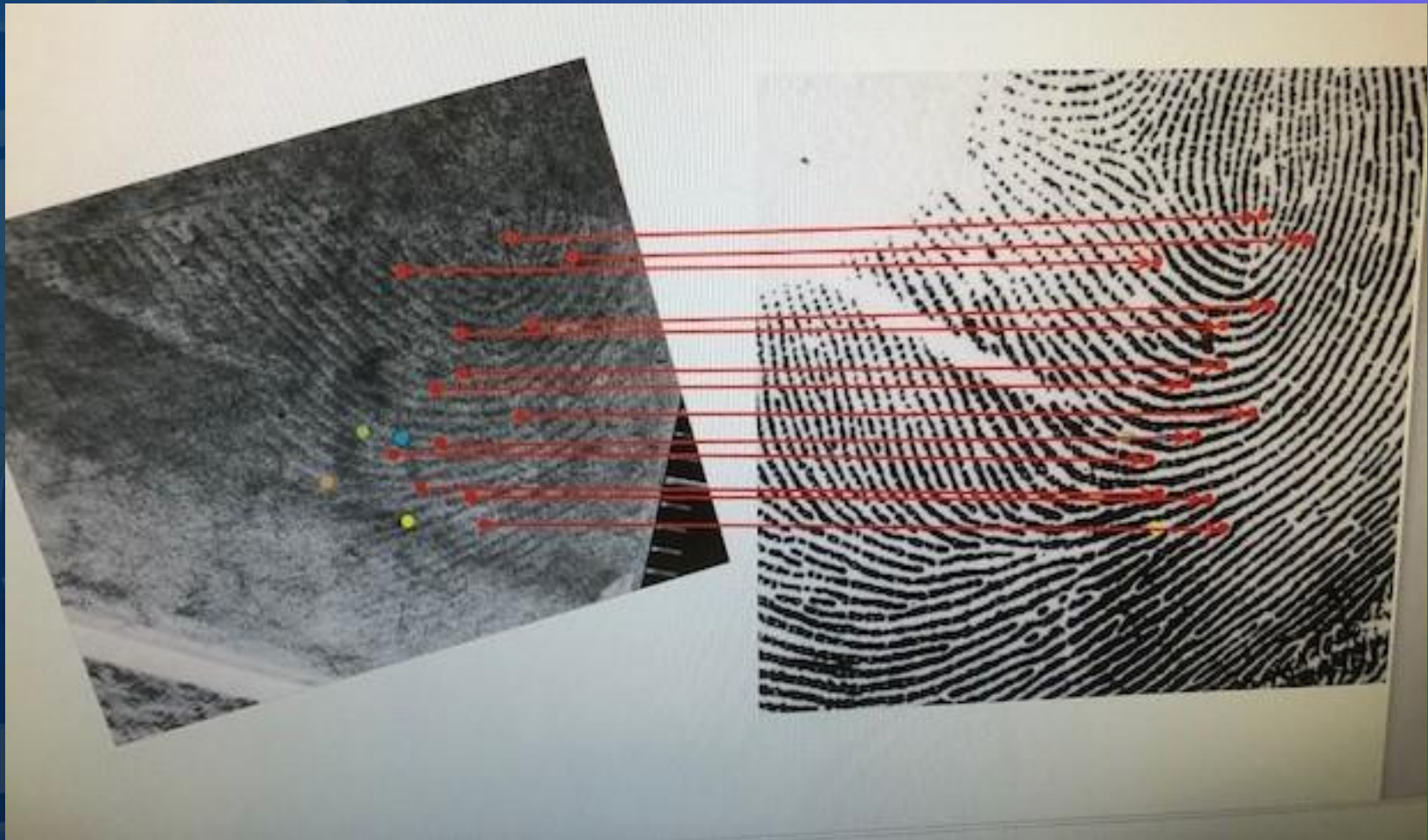
Legal Challenges: Documentation/Discovery

- Request for additional images
- Request to digitally scan originals
- Request for creation of additional images showing points of comparison and/or court demonstratives
- Request to disclose which examiners we will call

Legal Challenges: Documentation/Discovery



Legal Challenges: Documentation/Discovery



Legal Challenges: Discipline Generally

- Based primarily on 2016 Report from the President's Council of Advisors on Science and Technology (PCAST Report)
- Also relying on recommendations from the American Association for the Advancement of Science (AAAS)
- Frye/Daubert challenges on the horizon

What is PCAST?

Executive Office of the President



The President's Council of Advisors on
Science and Technology

What is PCAST?

PCAST “represents one of the most important and authoritative collections of scientists in the country” and is “the leading scientific advisory body established by the Executive Branch.”



What is PCAST?

- 2009 Report by National Research Council
 - Critical examination of forensic sciences
 - Resulted in creation of:
 - National Commission on Forensic Science
 - Organization for Scientific Area Committees for Forensic Science
- 2015 – President asked PCAST to look at ways to strengthen the forensic sciences as they are used in the nation's legal system

What is PCAST?

- PCAST looked at seven “feature comparison” methods of forensic science
 - DNA - Single source/simple mixture
 - DNA – Complex mixtures
 - Bitemark comparison
 - Latent fingerprint analysis
 - Firearms identification
 - Footwear impressions
 - Hair analysis



REPORT TO THE PRESIDENT
Forensic Science in Criminal Courts:
Ensuring Scientific Validity
of Feature-Comparison Methods

Executive Office of the President
President's Council of Advisors on
Science and Technology

September 2016



PCAST TIMELINE

- September 20, 2016: Report issued
- Critical responses from multiple organizations
- At time of release, the United States Attorney General (Loretta Lynch) affirmatively rejected the recommendations in the PCAST report, stating, “We remain confident that, when used properly, forensic science evidence helps juries identify the guilty and clear the innocent, and the department believes that the current legal standards regarding the admissibility of forensic evidence are based on sound science and sound legal reasoning. *** While we appreciate their contribution to the field of scientific inquiry, the department will not be adopting the recommendations related to the admissibility of forensic evidence.”

<http://lawprofessors.typepad.com/evidenceprof/2016/09/recently-the-executive-office-of-the-president-presidents-council-of-advisors-on-science-and-technology-pcast-issued-a.html> (Last visited 11/30/16)

Responses to PCAST Report



NATIONAL DISTRICT ATTORNEYS ASSOCIATION

FOR IMMEDIATE RELEASE

Date: Sept. 2, 2016

**National District Attorneys Association slams President's Council
of Advisors on Science and Technology report**

Responses to PCAST Report



Testimony of Kay Chopard
National District Attorneys Association

before
the President's Council of Advisors on Science and
Technology

September 30, 2016

Responses to PCAST Report



Federal Bureau of Investigation

Comments on:

President's Council of Advisors on Science and Technology

REPORT TO THE PRESIDENT

**Forensic Science in Federal Criminal Courts: Ensuring Scientific
Validity of Pattern Comparison Methods**

Responses to PCAST Report



THE AMERICAN CONGRESS OF FORENSIC SCIENCE LABORATORIES



The United States Assembly of Forensic Science Laboratory Professionals

Our Mission

To represent and unite all current and former professionals of United States forensic science laboratories with the purpose of creating and preserving the conditions necessary for the American criminal and civil justice systems to have confidence in the integrity of forensic laboratory services.

POSITION STATEMENT

September 21, 2016

THE 2016 PCAST REPORT

Responses to PCAST Report



Association of Firearm and Tool Mark Examiners

Response to PCAST Report on Forensic Science
October 31, 2016

Responses to PCAST Report



International Association
for Identification



IAI Response to the Report to the President 'Forensic Science in Criminal Courts Ensuring Scientific Validity of Feature-Comparison Methods' issued by the President's Council of Advisors on Science and Technology (PCAST) in September 2016.

PCAST TIMELINE contd.

- December 2016: PCAST co-chair Eric Lander sends email inviting organizations to submit additional materials for consideration
- Some organizations respond, others decline request
- PCAST issues “An Addendum to the PCAST Report on Forensic Science in Criminal Courts”





June 17, 2017- Dr. Bruce Budowle writes 13-page letter critical of PCAST

- The PCAST Report “is an unsound, unsubstantiated, non-peer-reviewed document that should not be relied upon for supporting or refuting the state of the forensic sciences.” (p.1)
- Disregarded 2000 plus articles/studies with no documentation that they actually considered data in articles. (p. 3-5)
- “In conclusion, the few examples above demonstrate that the PCAST Report 1) is not scientifically sound, 2) is not based on data, 3) is not well-documented, 4) misapplies statistics, 5) is full of inconsistencies, and 6) does not provide helpful guidance to obtain valid results in forensic analyses.” (p.12 emphasis in original)

What PCAST is not

- PCAST is not an accrediting organization or authoritative forensic science body
- PCAST does not have the authority to overrule judicial decisions or Rules of Evidence
- PCAST Report is not a ground-breaking document-findings are largely consistent with earlier conclusions of NRC
- PCAST did not render feature comparison methods no longer generally accepted upon publication of its report

PCAST Approach:

- The following requirements should be met before a discipline is deemed “scientifically valid”
 - Foundational Validity
 - The method itself must be capable of identifying features in evidence samples
 - The method can be used to compare features in two samples
 - The method contains guidance at what level of similarity the features of two samples can be said to originate from same source

PCAST Approach:

- “Appropriately designed” studies from multiple groups necessary to establish the method’s false positive rate and sensitivity
 - Objective methods: (DNA only) reliability of individual steps enough
 - Subjective methods: black-box studies are the only way to establish foundational validity
 - BB studies must be double-blind, overseen by entities outside discipline, involve a large number of examiners, and involve large number of samples representative of casework

PCAST Approach:

– Validity As Applied

- Validity must be established as applied in every case where used
 - Essentially, proficiency tests and correctly executed procedures
 - Must also report overall false positive rate and sensitivity

PCAST Findings:

- Latent prints

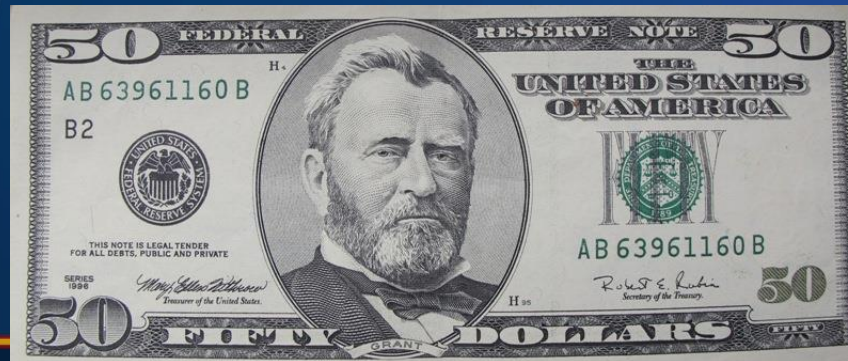
- Foundationally valid subjective methodology, but with a substantial false positive rate likely to be higher than jurors expect
- Open issues with validity as applied include confirmation and contextual bias and proficiency testing
- Applauded the field for conducting Black Box and White Box studies. Looked at 8 studies and concluded only 2 were “properly designed” (recommends jurors be informed of this)
- Wants examination of unknown completed and documented before knowns are examined and separately document anything looked at once comparison begins
- Overstates error rates

PCAST and Subjectivity:

- Because fingerprint examinations and comparisons are largely subjective, they have a natural and expected susceptibility to error and bias
- Bias:
 - Contextual information
 - Exposure to suspect's standard before examining LP
 - Higher risk of similar prints when database searches are done

AAAS:

- American Association for the Advancement of Science
- Working group comprised of 1 practitioner and 3 academics/researchers
- AAAS is a scientific society whose membership “is open to anyone who shares our goals and beliefs that science, technology, engineering, and mathematics can help solve many of the challenges the world faces today.”
- PCAST 2.0



Legal Challenges: Limit Opinions/Terminology

- “Identified” or “identification”
 - Admit that the discipline has abandoned absolute source attribution, but claim change is merely semantic
 - Nonetheless claim that “identify” still implies sourcing a LP to one particular person to the exclusion of all others
 - Legal argument: use of the word overstates probative value and misleads jury into giving opinion false weight
 - Inextricably linked to notions of infallibility
 - PCAST and AAAS have rejected “identified”

Legal Challenges: Limit Opinions/Terminology

- “Identified” or “identification”

- AAAS recommendation:

“The latent print on Exhibit ## and the record fingerprint bearing the name XXXX have a great deal of corresponding ridge detail with no differences that would indicate they were made by differing fingers. There is no way to determine how many other people might have a finger with a corresponding set of ridge features, but it is my opinion that this set of ridge features would be unusual.” AAAS, “Forensic Science Assessments, A Quality and Gap Analysis,” at 67.

- Ask court to instead limit articulation of opinion to “cannot be excluded” or “associated” or something similar

Legal Challenges: Limit Opinions/Terminology

- **Certainty statements**

- Because population statistics/studies have not been developed and examinations are subjective, outcomes of analysis are not repeatable from examiner to examiner
- Force examiners to discuss the “limits” of their field by offering error rates



“Reasonable Degree of Scientific Certainty”

- Bring up with ASA if they don't
- Not a foundational requirement-primarily a relic of custom and practice





"Reasonable Degree of Scientific Certainty"

• ASA should use alternative question(s) that track(s) rules or case law regarding expert testimony

- Cook County: "Are your opinions based on your knowledge, training, experience, and methodology that is generally accepted in the forensic science community."
- "Are your conclusions based on tests or methodologies or principles that are generally accepted in your field?"
- "Are your conclusions based on your knowledge, training, education and experience in the field of _____"
- "Are the principles/methods you used generally accepted and considered reliable in your field?"
- "Did you reach your conclusions by applying those generally accepted/reliable principles to the evidence in this case?"
- If asked the RDSC question, have an answer for it!

What to Expect from the Defense

- Discovery
 - Defense will turn over materials they plan to use during cross to the State (right before trial) and sometimes to you at prep or shortly before trial
 - Defense will ask you to create additional materials
 - Defense may subpoena unusual things

What to Expect from the Defense

- Pre-trial preps

- Defense request for a prep pre-trial

- Options

- Topics covered in prep will include very little about the examination in your case, and instead focus on PCAST, studies in your field, standards, error rates, how current you are in your reading

- Defense asking you to respond to general statements or describe general concepts including cognitive bias

- OR defense may get specific and ask you to do a comparison during the prep using your points or theirs

- Ask you if a particular point is a bifurcation, etc.

- Defense will take notes and may type of the notes from the prep and email them to you

What to Expect from the Defense

- Trial

- Defense may voir dire you about whether you are published, have participated in validation studies, educational background, training, certifications, etc.
- Defense may use photographs from your case file as demonstrative
- Even though we are not eliciting a certainty statement, defense will address the issue of certainty by asking you to describe how confident you are
- Defense will indirectly address the issue of certainty via error rates
- Defense will ask about subjectivity
- Defense will ask about PCAST and other studies
- Defense will ask about bias (knew facts of the case, AFIS association, etc.)

My job is:

- ☐ Rewarding
- ☐ Satisfying

☒ **SLOWLY
CRUSHING
MY SOUL**

When you wake up
in the morning



and sit by the side
of the bed like...



Defending your opinions

- **Voir dire**
 - Don't be defensive. Answer simply about whether you are published, have participated in validation studies, your educational background, training, certifications, etc.
 - You know more than defense counsel.
 - May take you through your CV and note time gaps. Explain those if relevant (maternity leave, etc.).
 - ASA may re-direct on whether publishing, etc. is required in your field or may take a “nothing to see here” approach
- **Photographs as demonstrative exhibits**
 - Is it acceptable to render opinions from the photos defense is showing you? Does the photo being used show all the details of the prints you examined? Is counsel accurately describing what the jury is being shown?
 - The purpose of taking photos and including in case file
 - Verification

Defending your opinions

- Certainty-asking you to describe how confident you are
 - Follow lab protocol for report writing and opinions
 - Feel free to explain or define terms, etc.
- You do not have to swallow defense (or State) terminology
- Mechanisms in place: Verification* (blind or not), QAS, proficiency tests, etc.

Defending your opinions

- Error Rates
 - What do particular studies count as errors? (false positive, something peer reviewer would have caught, forced conclusions)
 - Are you able to comment on a study without seeing the fingerprint evidence involved?
 - What mechanisms are in place not accounted for in the study? (peer review/verification, quality assurance protocols, etc.)
 - Be on guard for misstated error rates by counsel or only giving upper bound or partial findings/stats

Defending your opinions

- **Subjectivity**
 - Subjectivity is OK! Training, experience, proficiency, protocols, industry standards all ensure reliability of this type of subjective examination and conclusions
- **PCAST and other studies**
 - PCAST is not peer reviewed (ironic)
 - Is PCAST considered reliable within your field?
 - See responses to PCAST report to decide whether you think PCAST is worth the paper it's published on.
- **Bias**
 - Aware of bias and terminology associated with it
 - Peer review/verification



If you are going to get crossed on it...

- Have a pre-trial discussion/dialogue about PCAST
 - Have you read it? Are you familiar with its findings? Do you agree with its findings? What are the problems with PCAST Report? Have you seen Dr. Budowle's response? Have you seen response from FS organizations? Are PCAST complaints even at issue in this case?

What we say to dogs

Okay, Ginger! I've had it!
You stay out of the garbage!
Understand, Ginger? Stay out
of the garbage, or else!



What they hear

blah blah GINGER blah
blah blah blah blah blah
blah blah GINGER blah
blah blah blah blah...



Best approach: plain language
discussion/description of PCAST (and,
frankly, everything else)



Talk to your ASA!

- Great chance to make sure that issues are properly addressed at trial
- Bring anything out of the ordinary to ASA's attention
- Help them help you!



Thank You

Amy Watroba
Assistant State's Attorney
Forensic Science Unit
Cook County State's Attorney's Office
(773)674-5582
amy.watroba@cookcountyil.gov



amy.watroba@cookcountyil.gov

(773)674-5582

Cook County State's Attorney's Office