



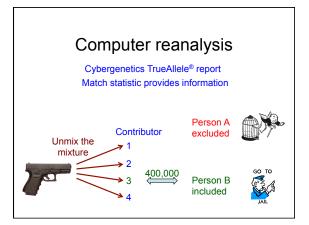
Inconclusive mixture

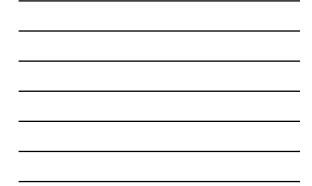
Crime laboratory DNA report Crime lab user fee: \$5,000

Conclusions:

Item 1 – Swab of textured areas from a handgun

The data indicates that DNA from four (4) or more contributors was obtained from the swab of the handgun. Due to the complexity of the data, no conclusions can be made regarding persons A and B as possible contributors to this mixture.

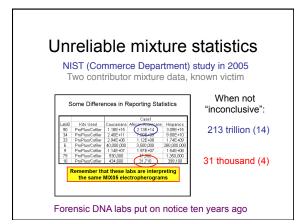


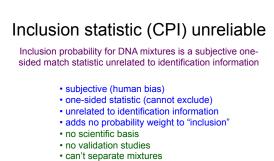


Mixture statistic shuts down labs

"National accreditation board suspends all DNA testing at D.C. crime lab" Cfie Washington Post April 27, 2015 Did not comply with FBI standards

"New protocol leads to reviews of 'mixed DNA' evidence" The Texas Tribune September 12, 2015 24,468 lab tests affected





susceptible to challenge

Computer reanalysis

The Washington Post

Virginia reevaluates DNA evidence in 375 cases July 16, 2011

• extensively tested TrueAllele system

• error rates have been determined

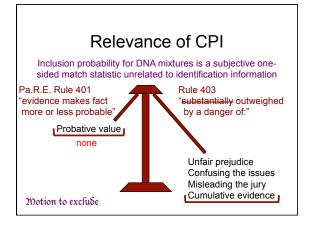
- 7 peer-reviewed validation papers
- generally accepted science
- overcome challenges in 6 states
- Pennsylvania v Kevin Foley (precedent)
- 250 cases: 60 in PA, 35 in Pittsburgh

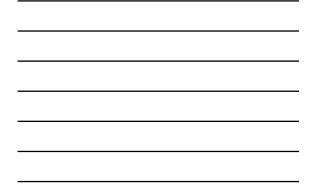
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TrueAllele Casework on Virginia DNA Mixture Evidence: Computer and Manual Interpretation in 72 Reported **Criminal Cases**

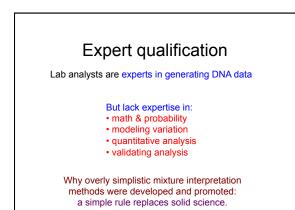
Mark W. Perlin¹*, Kiersten Dormer¹, Jennifer Hornyak¹, Lisa Schiermeier-Wood², Susan Greensp 1 Cybergenetic, Pitsburgh, Pernyhenia, United States of America, 2Department of Forenic Science, Richmord, Virginia, United States of America March 25, 2014

... The computer could make genotype comparisons that were impossible or impractical using manual methods. TrueAllele computer interpretation of DNA mixture evidence is sensitive, specific, precise, accurate and more informative than manual interpretation alternatives. It can determine DNA match statistics when threshold-based methods cannot. Improved forensic science computation can affect criminal cases by providing reliable scientific evidence.





Reliability of expert testimony Inclusion probability for DNA mixtures is a subjective onesided match statistic unrelated to identification information (b) expert's knowledge helps trier of fact Pa.R.E. Rule 702 understand the evidence or NO determine a fact in issue? (c) methodology generally accepted in the relevant field? NO Daubert • has CPI been tested? NO • established error rate? NO • peer-review validation? NO Motion to exclude



Cross examination

"Cross-examination is the greatest legal engine ever invented for the discovery of truth."

- Dean John Henry Wigmore
- Is the DNA a mixture of two or more people?
- How did you calculate the match statistic?
- What is the scientific basis of that calculation?
- Have you or others validated CPI?
 What is the statistics' false positive rate?
- How has its reliability been demonstrated?
- Are there peer-reviewed validation studies?
- What controversy surrounds the calculation?

Post-conviction relief Title 42, Chapter 95, Subchapter B

§ 9543(a)(2). Eligibility for PCR

 (ii) Ineffective assistance of counsel
 (vi) The unavailability ... of exculpatory evidence that has subsequently become available and would have changed the outcome ...

§ 9543.1. Post-conviction DNA testing TrueAllele reanalysis of "inconclusive" DNA or inaccurate DNA match statistics

Han Tak Lee v. Monroe County (PA Innocence) US Court of Appeals for the Third Circuit (2012) "fire expert testimony at trial fundamentally unreliable, so entitled to federal habeas relief on due process claim"

Conclusions

- much DNA mixture interpretation is unreliable
- "inconclusive" means "call Cybergenetics"
- crime lab match statistics often inaccurate
 challenge on relevance, reliability, expertise,
- and vigorous cross-examination
- pursue actual innocence via PCR
- good science leads to fair trials

