Other Testing Techniques

National Center *for* Credibility Assessment

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• Each technique described in this slide show has a specific purpose.

• Consider each technique as a tool – as with all tools, we must use the right tool for the right occasion.

• The only purpose for any of the following testing techniques is to either rule out or confirm CM activity.

> • If you already suspect CM activity there is no reason for further testing.

> • Either interrogate on the most salient relevant topic (preferred) or interrogate on CM activity.

• If you interrogate on the relevant issue and obtain a confession – spend the next few minutes obtaining the CM confession also.

• If examinee denies the relevant issue then tell him or her the only other explanation is CM – get the CM confession.

Block Objectives

- Identify techniques designed for specific Counter-CM situations
- Discuss how to employ the counter-CM techniques

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- **Identify techniques designed for specific Counter-CM situations**
  - **The various formats have two purposes:**
    - **(1) Confirm that CM is or is not taking place.**
    - **(2) Provide a wedge to be used in the post-test either on the relevant issue(s) or CM.**
  - **We acknowledge that some of the formats (e.g., silent answer test) have other purposes.**
    - **Even the silent answer test is for unique situations (e.g., examinee sniffing at each answer)**
- **Discuss how to employ these techniques: What to say & how to say it.**

The Lie Behind the Lie Detector – 4th Digital Ed.

■ **Chapter 4 mentions the following under Polygraph Counter-Countermeasures**

- ○ **Silent Answer Test**
- ○ **Yes Test**
- ○ **Referring to IQ as "control" questions**
- ○ **Time barring IQ**
- ○ **Dropping polygraph jargon**

• **CH 4 – Polygraph Counter-Countermeasures:** *If you put anything about CM in the public domain it will find its way to Antipolygraph.org.*

• **Silent Answer Test – Suggests used to catch examinee off-guard**

• **Yes Test – Idea is to trick the examinee to use CM at the relevants**

• **Irrelevants identified as controls – to mislead the examinee**

• **Time barring Irrelevants – make appear to be a control –**

• **Polygraph jargon – to determine if examinee has researched polygraph**

• **Now that we know what "The Lie…." says, lets look at other techniques**

Repeat the Last Word Test

Counter-Countermeasures

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• This technique was not identified in Chapter 4 of "The Lie Behind the Lie Detector."

• This technique is designed to increase cognitive load (examinee must listen attentively and repeat the last word of the question before answering.

> • The added demand of having to listen for the last word – repeat it – then answer with the appropriate response.

> • For some examinee's the demand is too much and the CM will stop. For others, the CM may stop for one chart.

Repeat the Last Word Test

- When this technique might be used:
    - If examinee is not paying attention or falling asleep
    - If examinee physiology appears atypical
    - If CM activity is clearly identified
- Full exam not required

• When this technique might be used:

• If examinee is not paying attention or falling asleep – Inattention and falling asleep are defense mechanisms employed by deceptive individuals – they can also be CM

• Physiology appears atypical – but not sure if it is CM activity (CMs will sometimes go away)

• CM clearly identified – (Your agency requires a CM warning before attempting a CM post-test) – Provide the warning then move to this format

> • If CM is clearly identified and there is no prohibition against a post-test – then interrogate on the salient relevant issue followed by the CM issue.

• Full exam using this technique is not required: Sometimes one chart is sufficient to get the examinee back on track.

• Not designed for regular use………………

Repeat the Last Word Test

- **Instructions:**
  - **Must listen carefully**
  - **When you hear last word – repeat it then answer**
  - **Practice – Read all questions have answer**

• Instructions:

    • Explain that they must listen carefully because they will have to repeat the last word in the question then provide their answer.

    • Practice – Read each question and have them repeat the last word then answer.

    • For those that have been inattentive or falling asleep this technique will work for one or two charts.

    • For those performing CM activity, it will be very difficult for the first few charts because they are performing a variety of cognitive functions and CM activity will not be possible until after they answer the question.

        • However, they will also have to be listening for the next question

YES TEST

Counter-Countermeasures Test

7
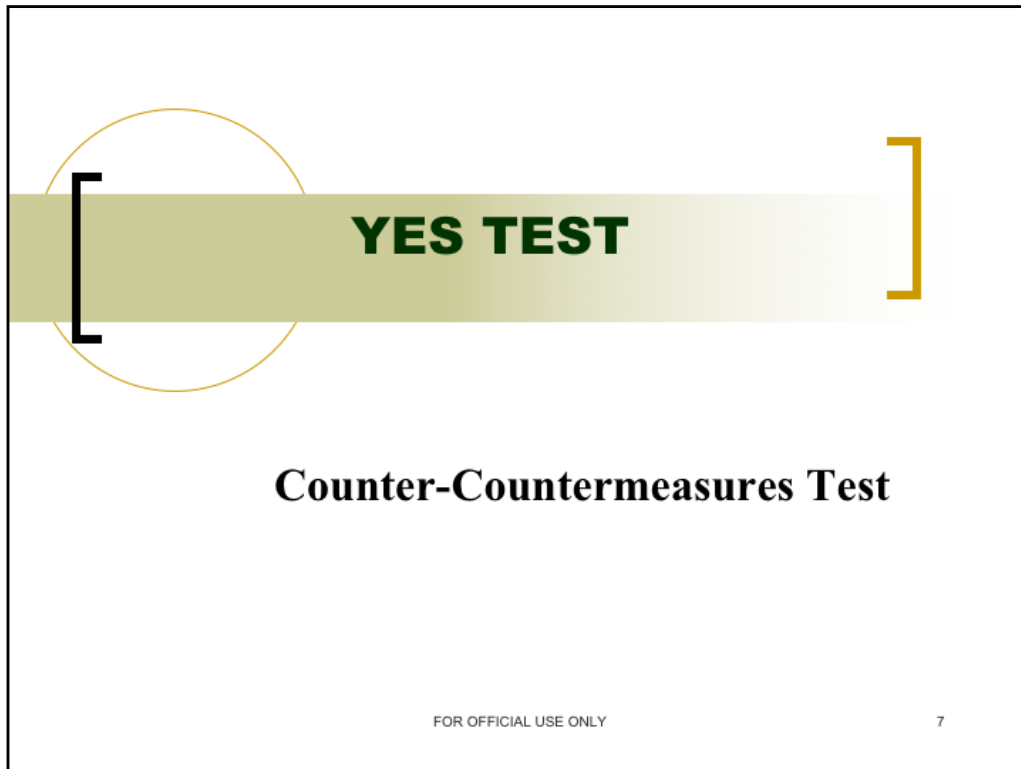
• The "Yes Test" is identified in Chapter 4 of "The Lie Behind the Lie Detector".

• The technique can be found in Reid & Inbau, 1977 where examinee's are instructed to answer all of the questions with a "Yes" answer.

• Chapter 4 suggests – not responding to the relevant questions, but if control questions are used to make sure and augment reactions to them.

_____

• The only purpose of this technique is to confirm (in the examiner's mind) that CM activity is indeed being performed.

• We suggest dropping the Comparison questions and only asking IRQ and RQ.

> • If you do not plan to interrogate on the CM issue – no need to use this technique

• Ch. 4 of "The Lie…" identifies this technique and explains how to compromise it.

    • Not too concerned, because most will not remember the technique

• Only two purposes for this technique:

    • May assist in confirming CM activity

    • *The Lie* is partially correct – the technique will trick some into performing CM activity at the RQ or the IRQs.

    • If this technique is going to be used it ought to be for the purpose of interrogating on the CM issue. (It is a post-test wedge).
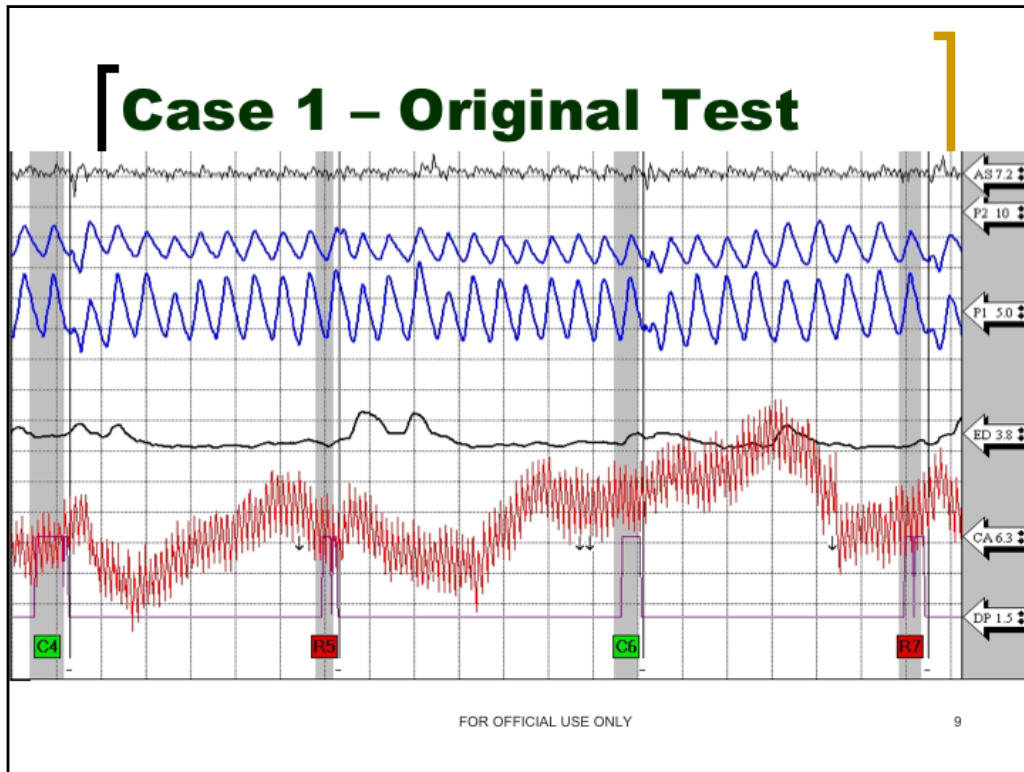
Case 1 – Initial Exam (Criminal issue – Child Sex Abuse)
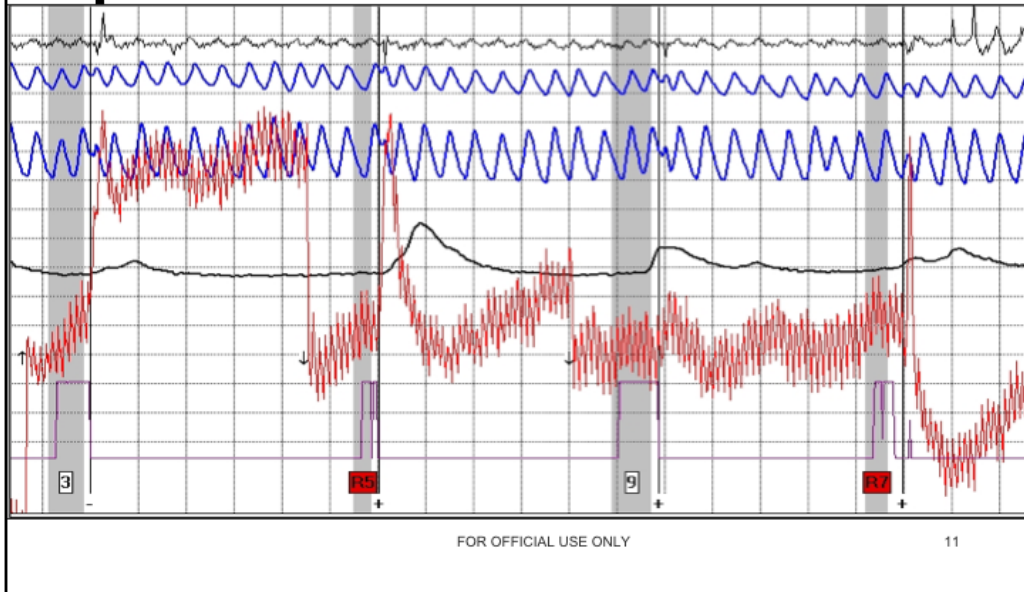
• **What do you see in the test data that might appear atypical?**

    • **Point out the CM signatures**
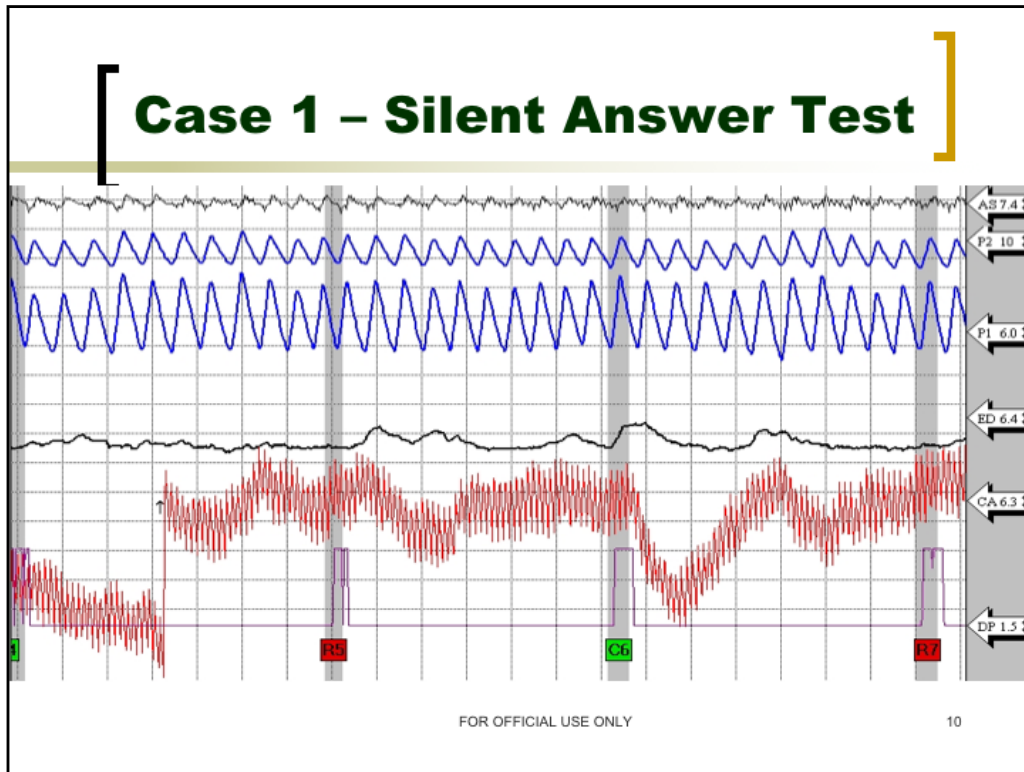
Case 1– One Chart Silent Answer Test

• **What do you see in the test data that appears atypical?**

    • **Point out the physiology.**

Case 1– Yes Test

• **The comparison questions have been eliminated.**

• **What do you see now?**

Case 2 – Original Test
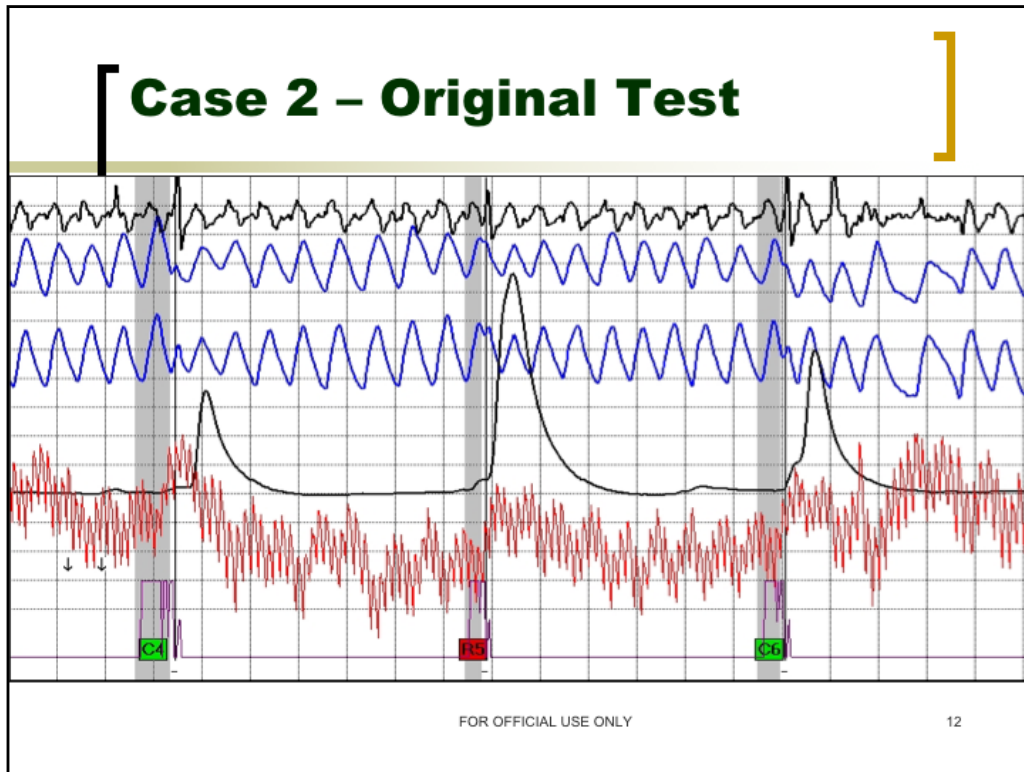
Case 2 – Original Test

> • **What do you see in the test data that may be atypical?**
>
> • **Point out the atypical physiology.**
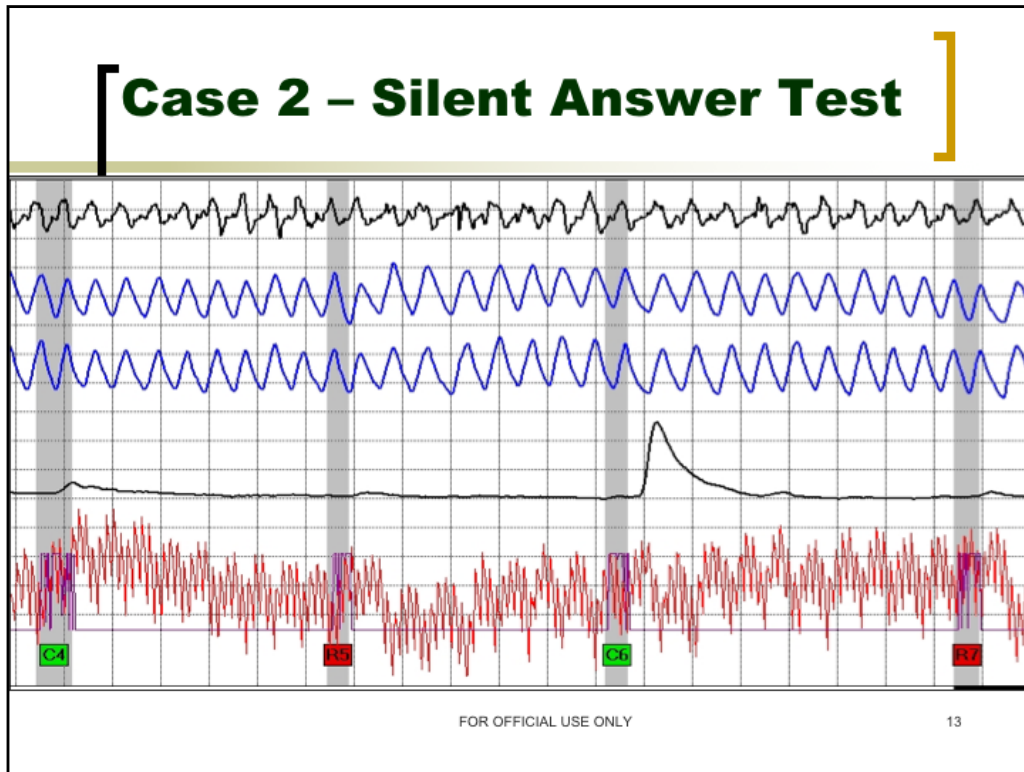
Case 2 – Silent Answer Chart

• The charts are clean although there is a roll in the cardio tracing (could be a cuff placement issue or a pressure issue).

• Look at PN & CV responses in both RQs – **What do you think?**

• Look at EDA & CV responses both CQ – **What are your thoughts?**
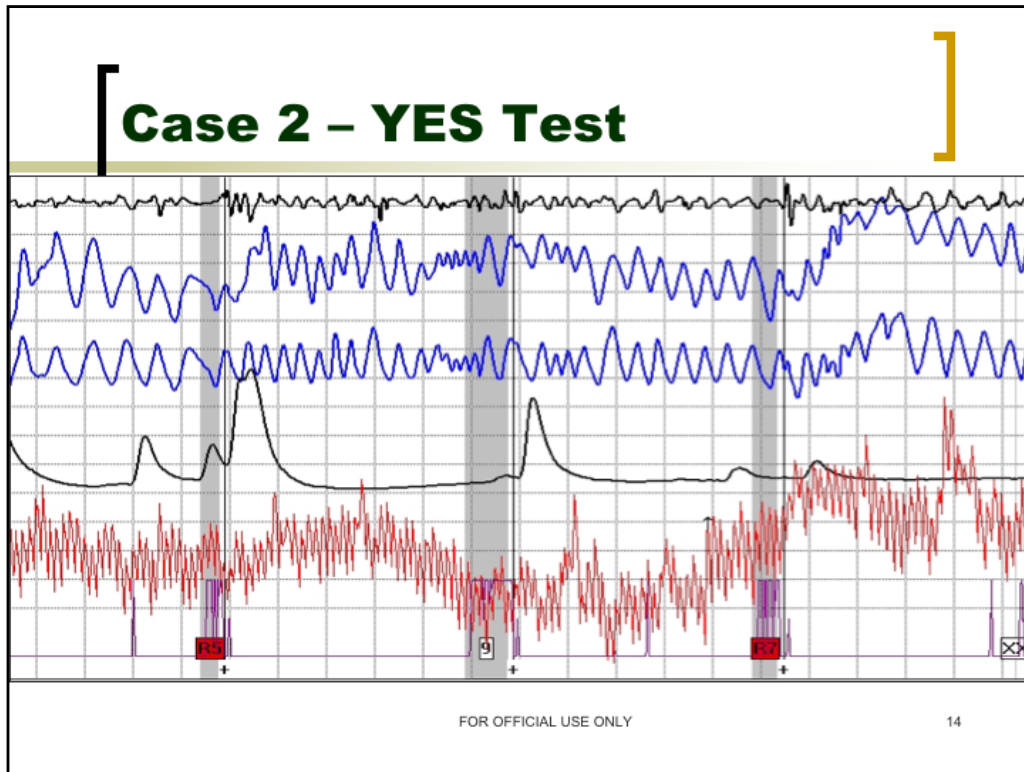
Case 2 – YES Test

- **This is the same case but now using the Yes Test.**

- **What do you see?**

- The rest of the story:

  • Examinee manipulated his breathing at the relevant questions.

  • He also admitted to manipulating the CQ during the silent answer test.

  • **What do you see that appears atypical?**

Focused CM Technique

Counter-Countermeasures Test

- **<u>Strictly a Counter-CM test – not to be numerically evaluated</u>**

- **Based on a test designed by <u>Richard I. Golden</u> during May 1980.**

- **This technique uses a Focused CM question. *(examinee's first or last name)* – Directed to answer "NO."**

    - **Golden called this question an "Instructed" lie.**

    - **Examinee is told that it will be used to *compare* against the relevant questions because they are deliberately lying to their name.**

- **This test also contains what Golden called a "Universal control" question: *"Are you afraid you might fail any of these test questions?"***

    - **If they answer "YES" get the reason then qualify the question.**

    - **E.g., *"Other than nervousness, are you afraid you might fail any of these test questions?"***

- **For our purposes this is a "Universal Response" question - We'll explain why shortly.**

Focused CM Technique

- **This is a counter-CM test**
  - Used when CM suspected – but not sure

- **Format contains:**
  - Irrelevant questions
  - Relevant questions + Sacrifice Relevant
  - Focused CM question *(first or last name)*
  - Universal Response question

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- **Counter-CM test – Used when CM suspected but not sure**
  - **Test data is sloppy/messy with random responses**
  - **Test data contains MV in sensor pad that is indiscriminate**
  - **Test data contains atypical physiology but it does not meet the frequency and specificity requirements**
  - **Test data was atypical – examiner provided a CM warning – test data changed but not sure if a different CM is being used**
  - **Suspect but not sure of CM and insufficient physiological data to make a call of SR or DI**

- **Format:**
  - **Irrelevants:** Are the lights on? Are you sitting down?
  - **Relevants:** Have you committed a serious crime?
  - **FCMQ:** Is you first name Dan?
  - **Universal Response question (UR):** Are you afraid you might fail any of these test questions?

Focused CM Technique

- **RQ** – reviewed and discussed
- **FCMQ** - *Dan, I'm going to ask you one comparison question several times and I want you to lie to that question every time you hear it. I want to see how you respond when you lie to this question and I will compare your lie response from that question to the suitability questions. The question I want you to lie to is: "Is your name Dan?"*
- *I'll ask you this question several times to make sure you have the continued capability of responding when you deliberately lie to me.*

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- **If the previous test had been a Directed Lie format this instruction can be modified a little:**

  - *Dan, I directed you to lie to certain questions on the last test. I assumed that you had something on your mind when you lied – but I did not know for sure. On this test we will both know for sure that you are lying about your name – so when I see how you respond when you lie to your name, I can compare those responses to your responses at the suitability questions regarding major crime, drugs & lying on forms.*

  - *The reason I will ask your name several times and have you lie to it, is to make sure you have that continued capability of responding when you lie.*

- **To a truthful person having to lie to their name is a mild stimulus. The same FCMQ will provide those performing CM ample opportunity to do so.**

Focused CM Technique

■ Universal Response Question (URQ) – "Are you afraid you might fail any of these test questions?"
  ○ Most will answer "NO" to the question
  ○ If they say "YES" ask them why?
  ○ Get their reason then re-phrase the URQ: "Other than being nervous, are you afraid you might fail any of these test questions?"

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- **Universal Response Question – [Concept]**

  - **A truthful person will have very little significant response to the question – if they are truly afraid there will be response but it probably will not be dramatic.**

  - **A deceptive person will perceive this question to be a relevant issue and the response should be significant.**

- **Why ask a URQ?**

  - **The URQ will act as a mild comparison question for the innocent but will often be considered a super relevant question for the guilty and will enhance relevant responses**

  - **Although not numerically evaluating can still consider a post-test on the relevant questions if they appear globally salient. [At this point you have either confirmed CM or if no CM there should be salience at the relevant questions – a discussion of one or the other needs to occur]**

- **Format**
  - **Irrelevant** – **Are you sitting down? YES**
  - **Irrelevant** – **Are the lights on in this room? YES**
  - **Sac-Relevant** – **Regarding the suitability questions, do you intend to answer each question truthfully? YES**
  - **Focused CM** – **Is your first name Dan? NO**
  - **Relevant** – **Have you committed a serious crime? NO**
  - **Focused CM** – **Is your first name Dan? NO**
  - **Relevant** – **Have you been involved with illegal drugs? NO**
  - **Universal Response** – **Are you afraid you might fail any of these test questions? NO**
  - **Relevant** – **Have you fabricated or omitted any information on your SF-86? NO**
  - **Focused CM** – **Is your first name Dan? NO**
- **Run 2 charts forward – 20 to 30 second spacing – give time for CM**

Focused CM Technique

■ **Evaluation:**

    ○ Atypical physiology at the FCMQ
    ○ Significant responses at the URQ and RQs

- **Atypical physiology at the FCMQs**

  - **This test will give the examinee opportunity to perform CM.**

  - **If atypical physiology appears only at the FCMQs – interrogate on that topic.**

- **Significant responses at URQ & RQs.**

  - **If you <u>do not</u> see any atypical physiology but you do see significant and timely responses at the URQ and RQs -**

  - **Go back and look at your test data from the original series – Do you see salience at the relevant questions?**

  - **Interrogate on the most salient topic**

  - **[The purpose of the polygraph is information. At some point there must be a discussion of the salient issue or CM issue. Continued testing does not resolve issues]**

YES/NO TEST

Counter-Countermeasures
Test

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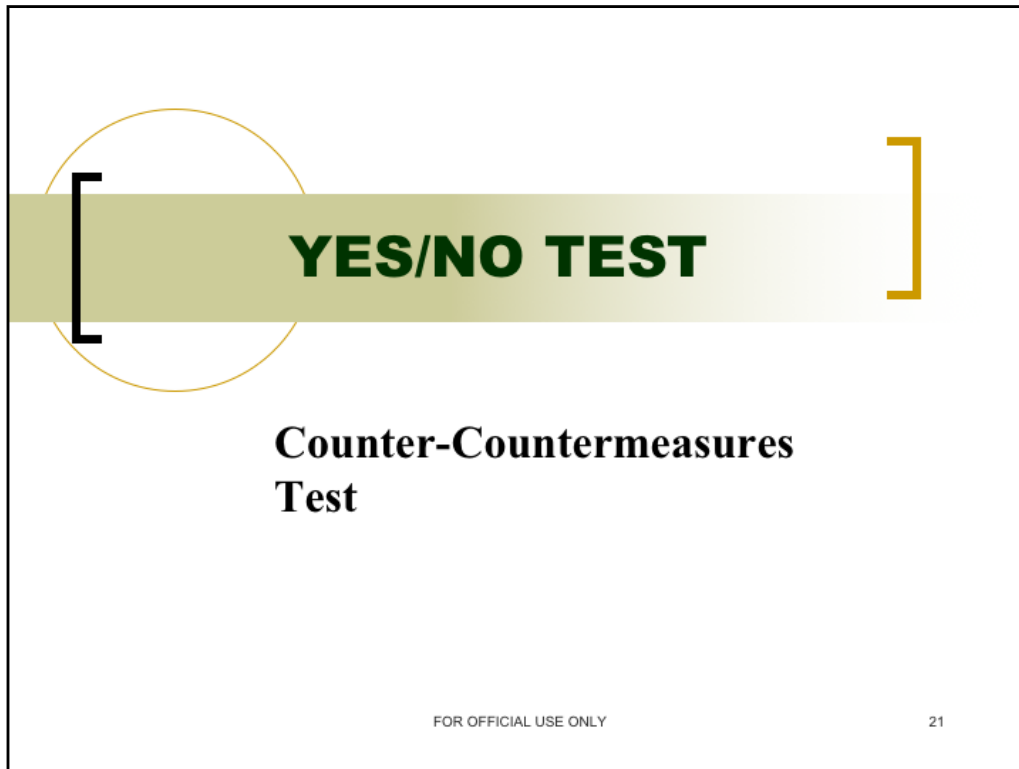
- **During the 1960's there was a considerable amount of experimentation on what became known as the YES/NO Test that was designed by Richard I. Golden who had a polygraph laboratory at the Wells Fargo Alarm Services, Inc.**

- **Golden gave full credit for the technique to Morton Sinks who was a private polygraph examiner in Cleveland, Ohio.**

- **The structure of the Yes/No test – Every question is asked twice in a row.**
    - **Examinee is instructed to answer <u>truthfully</u> the first time and <u>lie</u> the second time.**
    - **Two Irrelevant questions are asked first.**
- **Various methods were suggested**
- **Our purpose here is to introduce the technique for the purpose of identifying CM.**

Crowe, Michael J.; Peters, R. Douglas; Suarez, Yolanda M., and Claeren, Lisa. The research project to compare the relative validity of the positive control and the relevant-irrelevant polygraph techniques. Jacksonville, AL: Jacksonville State University; 1988; Contract #MDA 904-87-C-2293. 185 p.

Crowe, Michael J.; Suarez, Yolanda M.; Peters, R. Douglas, and Claeren, Lisa. The positive control question polygraph technique: Validity and scoring for multiple issue testing. 1988 Mar3 p.
Notes: Paper presented at the Southeastern Psychological Association meeting, Washington, DC

Driscoll, Lawrence N.; Honts, Charles R., and Jones, David. The validity of the positive control physiological detection of deception technique. Journal of Police Science and Administration. 1987; 15(1):46-50.
Notes: Reprinted in Polygraph, 16(3), 218-225

Forman, Robert F. The reliability and validity of three polygraph techniques using the field practice model. Dissertation Abstracts International. 1985; 45(12A):3622.
Notes: (University Microfilm International No. 8503690)

Forman, Robert F. and McCauley, Clark. Validity of the positive control polygraph test using the field practice model. Journal of Applied Psychology. 1986; 71(4):691-698. ISSN: 0021-9010.
Notes: Reprinted in Polygraph (1987), 16(2), 145-160.

Gordon, Nathan J. and Cochetti, Philip M. The positive control concept and technique. Polygraph. 1982; 11(4):330-342.

Howland, Dorrance P. An application of the positive control concept of polygraph examination. Polygraph. 1978; 7(4, December):286-294.

Howland, Dorrance P. Pilot study on the validity of the positive control technique of polygraph examination. 1980 Jun 30.
Notes: Unpublished manuscript.

Howland, Dorrance P. Positive control question technique pre-test interview and chart interpretation. Polygraph. 1981; 10(1, March):37-41.

Positive control question test (PCQT). 1977.
Notes: Unpublished manuscript.

Reali, Silvestro F. Reali's positive control technique: A new concept of polygraph procedures. Polygraph. 1978; 7(4):281-285.

Reali, Silvestro F. and Gordon, Nathan J. Reali's positive control: A new concept of polygraph. 1979 Mar 17.
Notes: Unpublished manuscript, distributed at the Maryland Polygraph Association Seminar.

Reali, Silvestro F. and Schwartz, Larry. Validation of the positive control technique. 1976.
Notes: Unpublished manuscript.

Stallsmith, William A. Positive control question test (PCQT): As used to resolve inconclusive question areas. 1982 Jun.
Notes: Paper presented at the Federal Interagency Polygraph Committee Seminar, FBI Academy, Quantico, VA

Stallsmith, William A. Positive control question test (PCQT). 19876 p. + charts.
Notes: Unpublished manuscript, originally written in 1981, updated 1982 and 1987.

- **Research listed for Positive Control Question Technique an off-shoot of Yes/No**

YES/NO TEST
Pretest Interview

- **Eliminate the comparison questions**
- **Explain that you will ask each question twice in succession.**
  - The first time asked they will answer truthfully.
  - The second time they will answer with a lie.
- **Provide an example:**
  - *Tell the truth, Are you sitting down?* YES
  - *Tell a lie, Are you sitting down?* NO
- **Ask a 2nd IR – see if they answer correctly**

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- **Instruction:** **"In the case of control questions about 'sitting down' and whether the 'lights are on' I both know you are sitting down and I know the lights are on in this room."**

  - **"Therefore I will know what your physiology looks like when you are lying and I know what it looks like when you are telling the truth at the same question."**

- **Ask the second irrelevant question the same way to make sure that they know how the procedure is going to work.**

  - **If examinee makes a mistake correct him or her and repeat until they get it correctly.**
  - **Preface the first with "tell the truth" (TT) and the second with "tell a lie" (TL).**

YES/NO TEST
Pretest Interview

- **Instruction:** *We are going to go over each suitability (relevant) question. I'll preface each question with either TT or TL. Obviously, one of your answers MUST be the truth and the other MUST be a lie. What I am going to do is since each reaction is side-by-side I will compare the two reactions. I will not know which is the truth or the lie until I see your reactions during the polygraph test.*

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- **If you are confused after evaluating this technique – think how confused the examinee might be.**

YES/NO TEST
Pretest Interview

- TT – Regarding the suitability questions, do you intend to answer truthfully?
- TL – Regarding the suitability questions, do you intend to answer truthfully?
- TT – Have you committed a serious crime?
- TL – Have you committed a serious crime?
- TT – Have you been involved with illegal drugs?
- TL – Have you been involved with illegal drugs?
- TT – Have you falsified or omitted any information on your SF 86?
- TL – Have you falsified or omitted any information on your SF 86?

- **Before going over the relevant questions make the following comment:** *I don't know which is the lie or which is the truth until I see your reactions during the test. Just remember to provide what you feel is your truthful answer the first time I ask the question and provide the opposite answer the second time I ask the question.*

- **As you are going over the questions - look at their BASELINES behavior.**

- **It is suggested that if the examinee is lying about a suitability topic they will be telling you the truth at the TT question but lying at the TL question.**

- **However, some studies have shown that it does not make any difference whether one answers YES or NO to a question to which they are lying. They will respond.**

- **The next slide will provide further instructions on how to set this test up.**

YES/NO TEST
Pretest Interview

- **Instruction**: *I will now read all of the questions. Please answer them as we practiced.*
- **Format**: Read each question
- TT IR – TL IR – TT IR – TL IR – TT SR – TL SR – TT R – TL R – TT IR – TL IR – TT R – TL R – TT R – TL R
- *I should be able to see a clear difference between the truthful and lie responses – If you are ready let's get started*

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- **Review in the order that the questions will be asked on the polygraph.**

- **Some examples of this technique suggest keeping the comparison questions in place with the TT & TL – that would make for a very long test.**

YES/NO TEST
Pretest Interview

- **Operations:**
  - Think about the battle going on in the liar's mind – must give them time to think and respond
  - Minimum of 20 seconds between questions
  - Record 20 seconds before and after the X
  - Follow NCCA protocols

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- Remember, this is a counter-CM test. You have suspected CM or you would not be running this test.

- **What do you think is going on in the LIAR's mind?**
  - **You have told them that their lie should look different than their truth.**
  - **When you ask, "TT Have you committed a serious crime?" If they have committed a serious crime their truthful answer should be 'YES', but they have to answer 'NO'.**
  - **The opposite occurs when you ask, TL Have you committed a serious crime? Now the liar should answer 'NO' but must answer 'YES'**
- If you do not see CM activity – look to see which question set is most significant

Concealed Information Test

Counter-Countermeasures

• **Concealed Information Test is a recognition test and is not usually used as a Counter-Countermeasures Test.**

• **Multiple research indicating that if an examinee is knowledgeable regarding how the CIT is used they can use CM and possibly defeat the test.**

> • **Most individuals (including polygraph examiners) are not comfortable with this technique.**

Concealed Information Test

- GKT (Lykken 1959, 1960)
- CIT (Elaad, 2009; Vandenbosch, 2009; Gamer, 2008; Ambach, 2008; Rosenfeld, 2008; Gronau, 2005; Verschuere, 2004; Ben-Shakhar & Elaad, 2003; Hira & Furumitsu, 2002; Nakayamma, 2002; Ben-Shakhar & Furedy, 1990; Lykken 1974, 1998)

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• The only point of identifying some of the CIT research is to show that the scientific community prefers this method of testing because it is less intrusive and it is quantitative.

• Ample research to show that it can be defeated using both mental and physical CM activity

Concealed Information Test

Recognition test vs. Deception test

POT	CQT	RI
ACQT	MGQT	Specific
GKT	ZCT	Screening
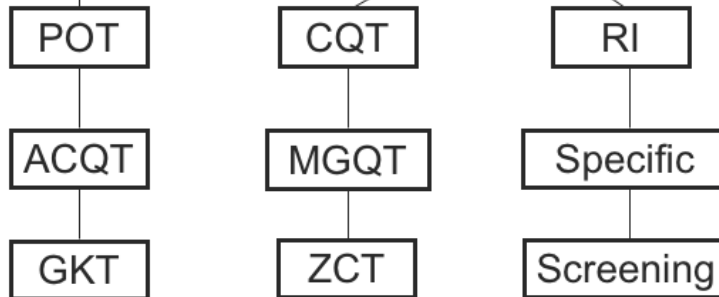
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• **Recognition Tests have very seldom been used in the Federal polygraph community (other than the ACQT).**

• **The NCCA spends very little time on SPOT or the Known Solution POT.**

> • **Most federal students probably do not know the evaluation criteria for a Recognition test :**

> • **(1) Rise to point of deception then level tracing; (2) Falling to point of deception then level tracing; (3) Level to point of deception then rise and falls; (4) Rises to point of deception then falls; (5) Falls to point of deception then rises; (6) Erratic tracing to the point of deception then smooth; (7) Smooth tracing to point of deception then erratic; (8) Any significant change (at a particular question).**

Advantages - CIT

- Easy to administer
- Error estimation
- Better theoretical basis than CQT
- Less intrusive
- Less instrumentation
- Ease of scoring
- Supported by traditional polygraph critics

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• **Easy to administer** – You will see later in this slide show that if proper questions can be identified – the test is easy to administer and to evaluate

• **Error estimation -** Quantitative evaluation is almost 100% for the non-deception meaning almost no false positives. The trade off – False negative rate can be 20% or higher.

• **Better theoretical basis than CQT** – Standardized, fewer false positive outcomes

• **Less intrusive** – Contains a series of multiple choice questions, each having one correct alternative (e.g., a feature of the crime under investigation) and several incorrect (control) alternatives, chosen so that an innocent person would not be able to discriminate them from the correct alternative.

• **Less instrumentation** – Only evaluate the EDA channel

•**Ease of scoring** – Bigger is better

• **Supported by polygraph critics** – For all of the above reasons

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Disadvantages of the CIT

- Developing critical items
- Examiner awareness/knowledge

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• **Developing critical items – In the U.S. it is very difficult to come up with key items of a criminal investigation that have not been released to the public.**

    • **Partially the media**

    • **But also the investigators**

• **Examiner awareness/knowledge – Not talking about awareness of the CIT as a technique**

    • **Often the polygraph examiner is not given the details of the criminal investigation**

    • **Even with access to the case facts – often the Case Agent will have hidden facts that are not released to the polygraph examiner.**

Test Item Development

- **Two types of items**
  - **Critical items:** One for each test
    - Something guilty would notice
    - Something the innocent would not know, nor likely to guess
  - **Irrelevant items:** (buffers, foils, padding, neutrals, non-critical, etc.): five for each test.
    - Must be similar to the critical item

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Two types of items:

• **Critical items:** Only one for each test

    • Something the guilty would notice: (e.g., type of weapon used; where the body was found, etc)

    • Something the innocent would not know, nor likely to guess: (with one critical item and five foils – only a 1 in 6 chances of guessing correctly)

• **Irrelevant items:** Called by various names: (Buffers, foils, padding, neutrals, non-critical)

    • 5 for each test

    • Must be similar to the critical item (e.g. If the examinee knew victim was shot but there was no report of the type of weapon then weapon caliber could be used)

How to administer the CIT

- **EDA is recorded and scored. NCCA teaches to use all channels – Assists in CM identification**
- **1st question is always an IRQ. Not evaluated**
- **Critical item positioned randomly in the string**
- **Examinee repeats each item**
- **One test for each critical item.**
  - **Research suggests that 4 is adequate.**
  - **Lower than 3 not recommended for evidentiary settings.**

• Since physical & mental CM can affect the results of a CIT – NCCA recommends using all channels – Evaluate the EDA for the critical item – but use PN & CV channels for possible CM activity.

• 1st question is always an IRQ. Allows for the orienting response and time to return to homeostasis.

• Critical item:

> • For evidentiary purposes there is a chart that will assist in proper randomization of the critical item

> • NCCA teaches to place the critical item in a different spot on each test

• Examinee repeats each item: (e.g., The color of the tarp covering the body, was it Orange, Red, Green, Brown, White, Blue) - Examinee repeats each color

• One critical item for each test with a minimum of 4 tests.
  • Color of the tarp
  • Location of the body
  • Type of weapon used
  • Caliber of the weapon – if the type proved to be a firearm

Evaluating the EDR

- EDR amplitudes – Only component evaluated
- Highest reaction on critical item - score is 2
- Second highest on critical item - score is 1
- All other scores are 0
- Cutoff score: If 4 critical items – cutoff is 4 or higher for recognition

• NCCA uses an evaluation method developed by Lykken.

• EDR amplitude is only consideration for evaluation.

• If the highest response (biggest bump) is at a critical item – score is a 2

• If the second highest response is on a critical item – score is a 1

• All other scores are 0

• If there were 4 critical items – thus 4 tests – the cutoff for recognition is a score of 4 or higher.

Research

- Lab: 82% accuracy – combined deceptive & non-deceptive examinees
- Field: Nearly 100% for non-deceptive. 60% to 90% for deceptive examinees
- CM research suggests that if CM performed at non-critical items there will be a large increase in false negatives

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• **Lab Studies: Combined accuracy is about 82%.**

- **False positive rate is almost zero**
- **False negative rate is fairly significant**

• **Field Studies: Nearly 100% accuracy for non-deceptive (providing that there is real ground truth).**

- **60% to 90% accuracy for deceptive**

• **The reason scientists like the CIT is because of the almost zero false positive rate and the fact that this can be quantified.**

• **Dan's comments:**

- **When a Subject commits a crime it is usually a time of high stress.**

- **Under this stressful condition most criminals will have tunnel vision and their cognitive awareness of surroundings will be limited.**

What will Statistical Data tell us?

■ The chance that an innocent person would accidentally react greatest to the critical item can be calculated

■ The likelihood that an innocent person would react greatest to the critical item on multiple tests can also be calculated
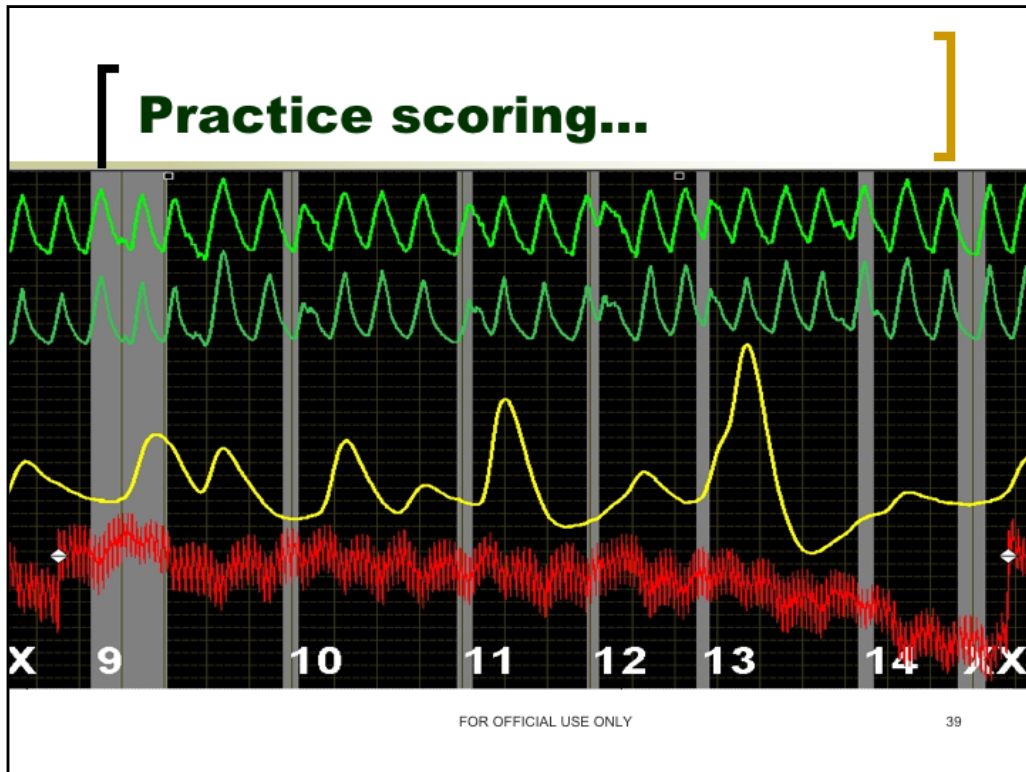
37

• This is some neat stuff – **However, without a confession** – It is some worthless neat stuff

　　• It can be argued intelligently in Court – If allowed

• Not trying to be shallow or demeaning concerning this technique – We must remember that our Court system is an Adversarial system

　　• There will always be an expert on the other side arguing that something in the process was not done correctly

• For our purposes – From a counter-countermeasures standpoint we will want to discuss how the CIT can be used

Probability Table

| CTTs	Score													
	3	4	5	6	7	8	9	10	11	12	13	14	15	16
2	12.00%	4.00%												
3	28.00%	12.80%	3.20%	0.80%										
4	43.80%	24.60%	10.10%	3.70%	0.80%	0.20%								
5	57.70%	37.50%	19.70%	9.20%	3.20%	1.00%	0.20%	0.00%						
6	68.90%	49.90%	30.90%	16.90%	7.70%	3.10%	1.00%	0.30%	0.00%	0.00%				
7	77.60%	60.90%	42.30%	26.30%	14.20%	6.80%	2.70%	1.00%	0.30%	0.10%	0.00%	0.00%		
8	84.10%	70.20%	53.10%	36.40%	22.20%	12.20%	5.80%	2.50%	0.90%	0.30%	0.10%	0.00%	0.00%	0.00%

Practice Scoring:

• **One test with one critical item and five non-critical items (foils)**

      • **If Q10 was the critical item the score would be "0"**

      • **If Q11 was the critical item the score would be "1"**

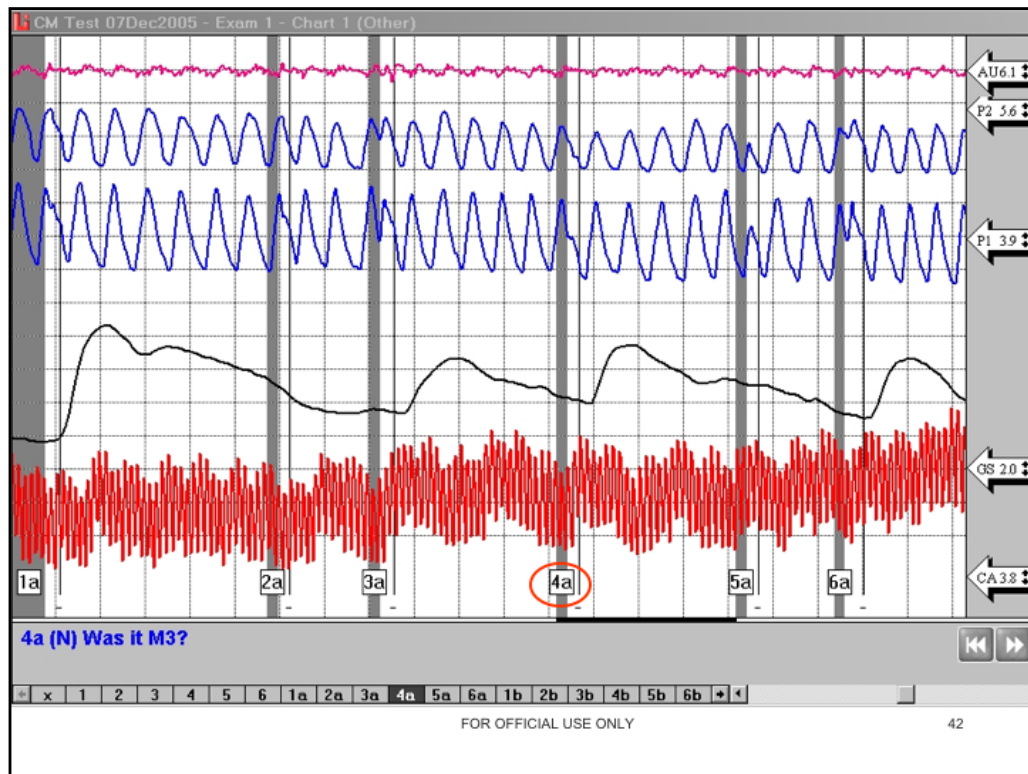   • **If Q13 was the critical item the score would be "2"**

Practice Test

- **Crime:** Diskette labeled SECRET stolen from 2-drawer safe in room M-3. Label contained the name "Project Bright Light"
- **Possible critical items?**
  - **Electronic media (diskette)**
  - **Classified SECRET**
  - **Labeled "Project Bright Light"**
  - **Stolen from a 2-drawer safe**
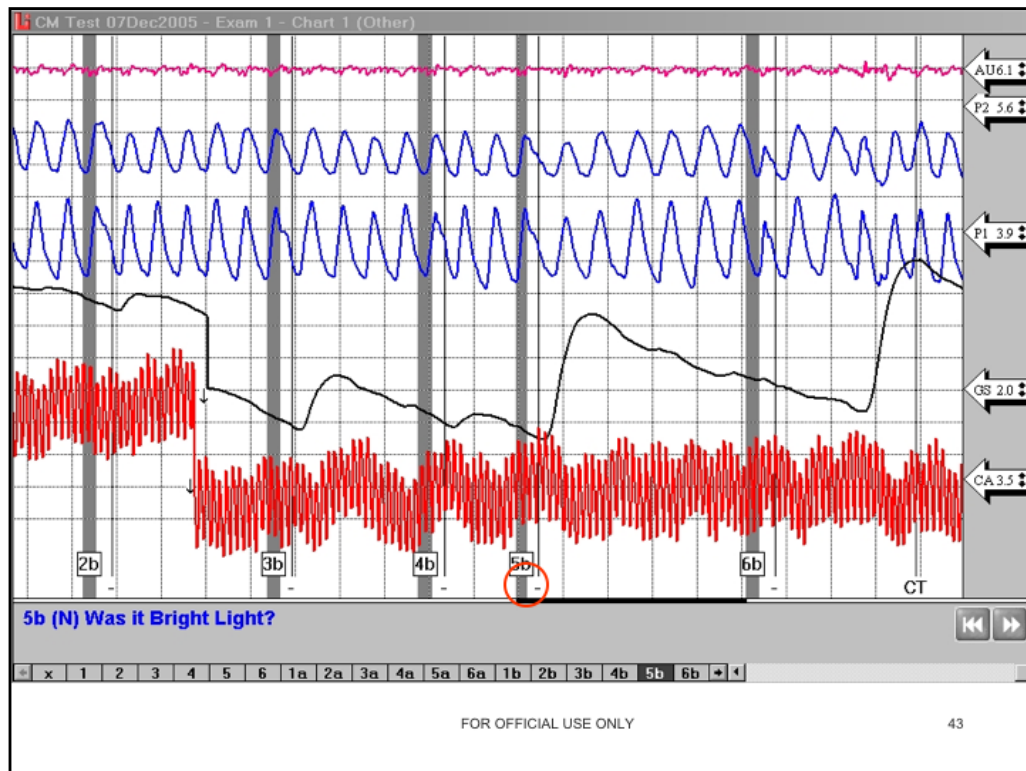 - **2-drawer safe in room M-3**

40
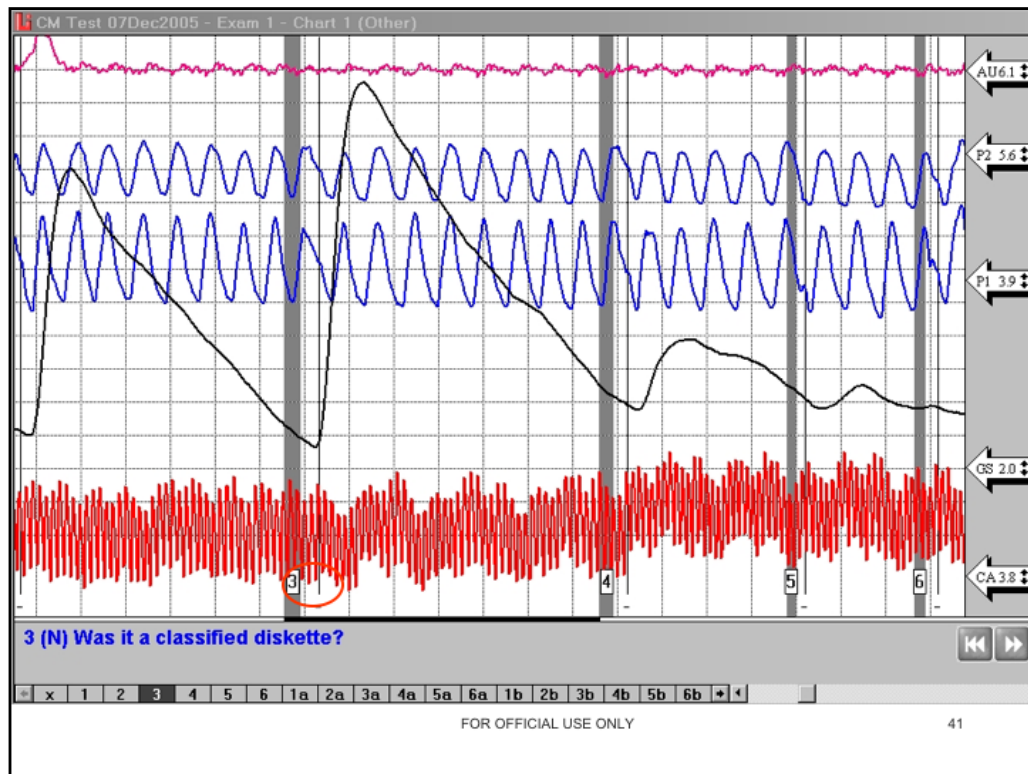
Critical item is Q3 (Was it a classified diskette?)

       • **Largest EDR is the critical item = 2 points**

Critical item is Q4a – Was it M3?

- 4a and 6a appear to be the same amplitude

- If this is the case the score would be "0"

• **Critical item 5b – Was it Bright Light?**

  • **Critical item contained the largest EDR amplitude = 2 points**

- **Critical item is 3c – Was it a safe?**

  - **EDR amplitude at 1c cannot be used due to DB**

  - **3c has the largest response = 2 points**

Scoring

- Test – 1 = 2
- Test – 2 = 0
- Test – 3 = 2
- Test – 4 = 2

Probability of innocence = .037 or Less than 1%

Total = 6 → Recognition Indicated
Cutoff = 4

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CITs – 4
Score – 6

3.7% divided by 100 = .037

Probability Table

CITs	3	4	5	6	7	8	9	10	11	12	13	14	15	16
2	12.00%	4.00%												
3	28.00%	12.80%	3.20%	0.80%										
4	43.80%	24.60%	10.10%	3.70%	0.80%	0.20%								
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7	77.60%	60.90%	42.30%	26.30%	14.20%	6.80%	2.70%	1.00%	0.30%	0.10%	0.00%	0.00%		
8	84.10%	70.20%	53.10%	36.40%	22.20%	12.20%	5.80%	2.50%	0.90%	0.30%	0.10%	0.00%	0.00%	0.00%