

Countermeasures

“Suspicion is healthy but paranoia is crippling”

CAUTION!

- Do not...repeat...not put anything that you learn today into the public domain.
- Do not...repeat...NOT tell the examinee how you detected his CMs.
- Do NOT...repeat...**NOT** put anything about CMs onto the Internet, directly or indirectly.

CM Definition

- Any action taken to affect a polygraph examination by using behavioral, physical, mental and/or pharmacological measures, *regardless* of the examinee's honesty to the tested issue(s).

The first big Internet CM case

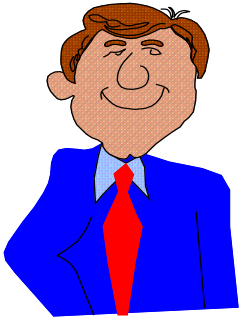
Peter S. London

February - June 1997

Case Study #1

London, Peter S. & Krapohl, Donald J.
(1999). *Polygraph*, 28 (2), 143-148.

Initial Case Facts



- Applied for position with a sensitive Govt. agency.
- Highly desired because of his education & scientific/technical experience.
- Nothing from his background investigation prepared the examiners to expect CMs, which were:
 - Sophisticated, multi-layered, and involved outside coaching.
- After confessing to other issues, he laid out his CM methodology, providing an educational opportunity for the polygraph profession.

First Session

Pretest interview

- 42 year old male
- Very likable
- Intelligent
- Well educated: Ph.D.
- Global knowledge
- Confident
- Cooperative
- Good verbal & nonverbal behavior

The pretest interview took longer than usual because the subject talked so much about his background in defense technology and counterintelligence matters.

The examiner was kept busy making notes and asking questions, as the subject went from topic to topic.

The subject later confessed that this had been a CM strategy on his part. Overload the examiner with so much detailed info that he managed control the direction of the pretest and to avoid areas he wished to conceal.

End of First Session

- Information obtained
 - Weapons technology
 - Attempting to sell technology to two foreign intelligence services
- There were unresolved reactions on the charts

Second Session

the next day

- Re-examined by the same examiner.
- Much of the same information discussed.
- Conducted a breakdown on concealing contact with a foreign intelligence service.
- There continued to be unexplained reactions on the charts

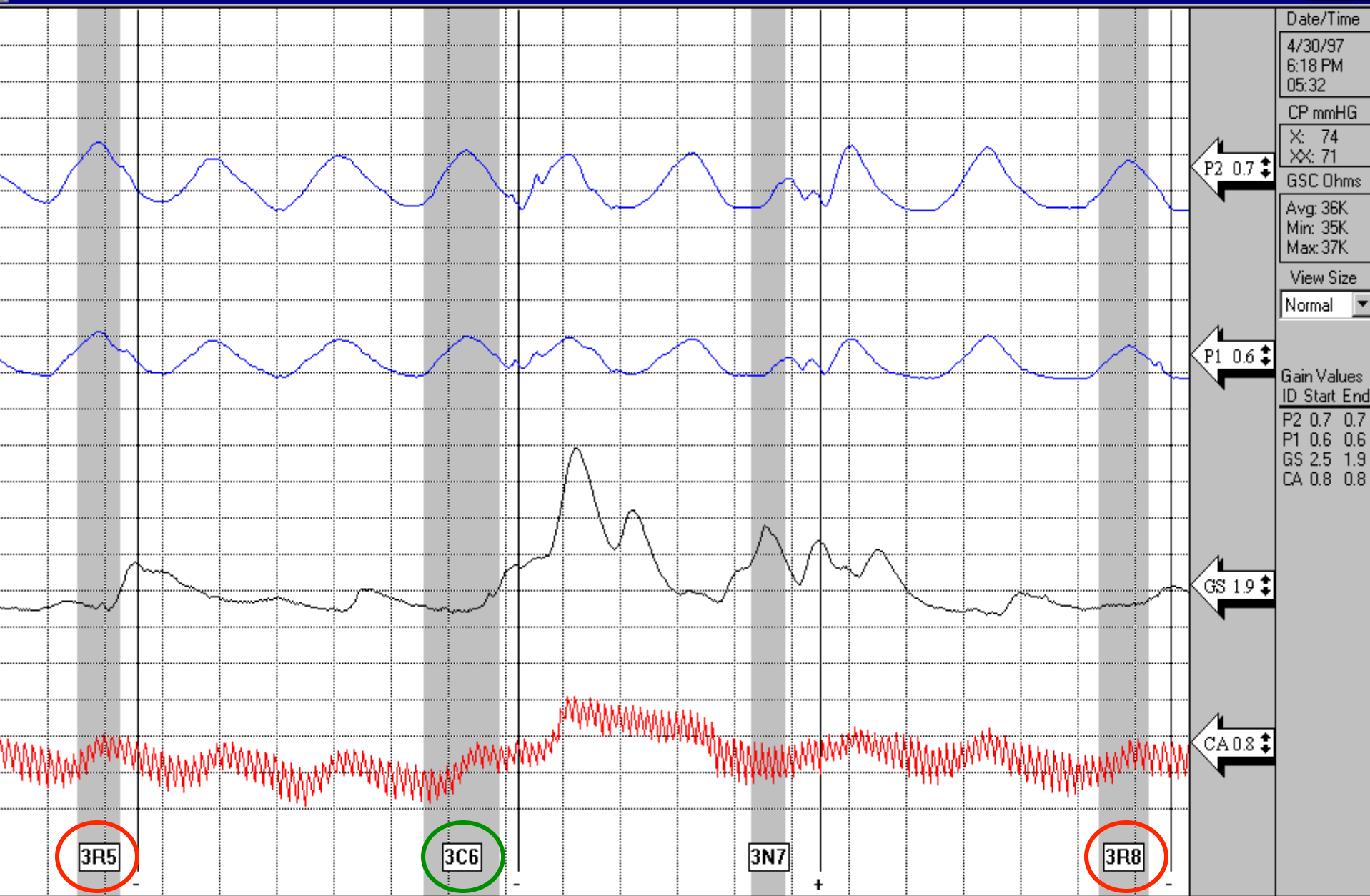
Third Session - 4 Months Later

Objectives

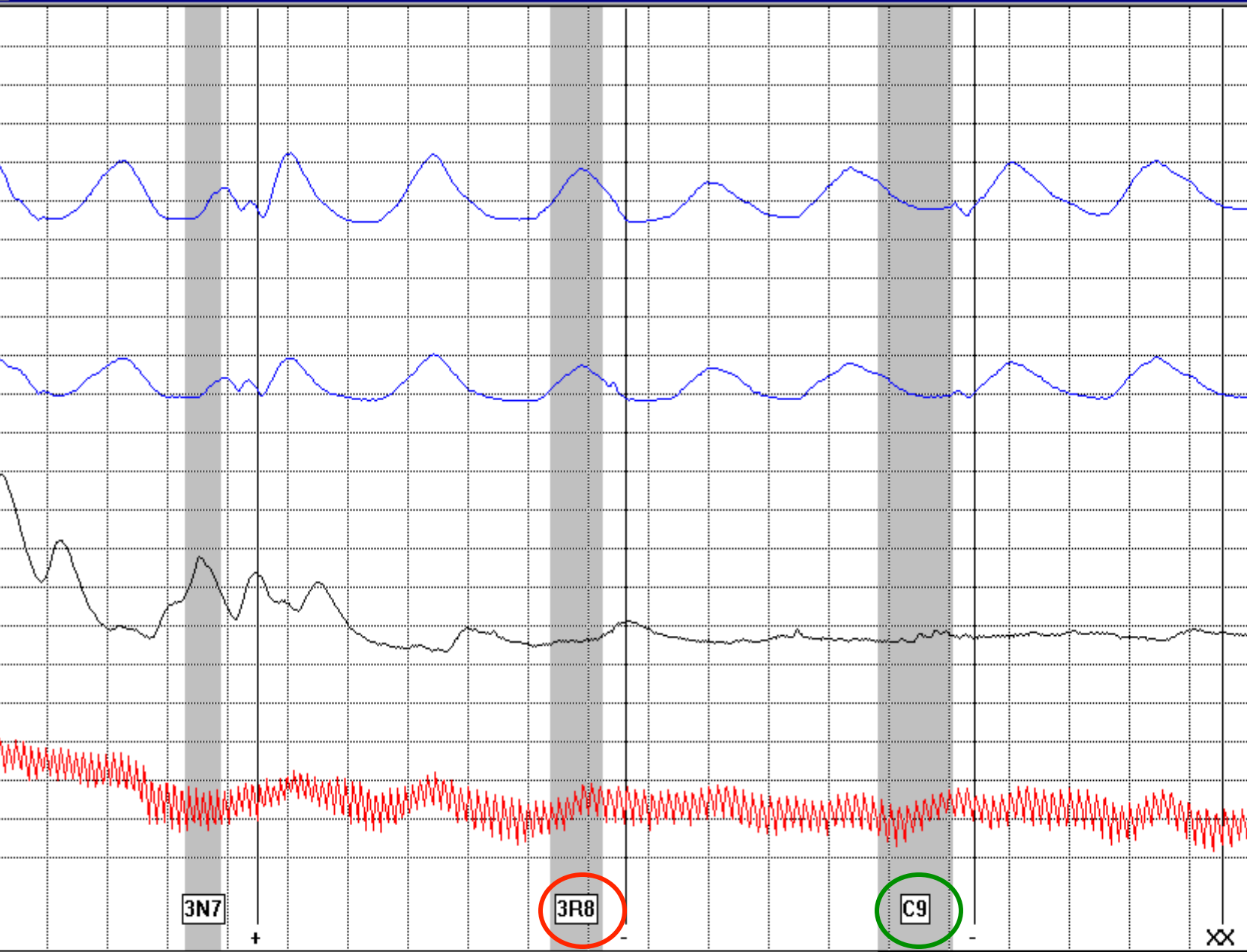
- A different examiner conducted test: Peter London
- Resolve foreign intelligence contacts
- Explore potential penetration of U.S. Intelligence
- Explore selling of weapons technology

Pretest

- As a military officer, he had served as a General's aide.
 - At meetings, he assessed participants' verbal, nonverbal behavior, and briefed the general on whom he believed to be truthful or not.
 - London and John sized each other up, decided each knew a lot.
- John admitted his PhD was honorary, not earned; and awarded by an organization, not a university. He has since been deliberately misrepresenting his academic background.
- John also admitted manipulating the previous examiner by information overflow.
- London attached the sensors and ran the first chart.



3C6 (N) OTWWD, have you ever misrepresented your academic abilities to make yourself look important?



Date/Time
4/30/97
6:18 PM
05:32

CP mmHG
X: 74
XX: 71
GSC Ohms

P2 0.7

Avg: 36K
Min: 35K
Max: 37K

View Size
Normal

Gain Values
ID Start End
P2 0.7 0.7
P1 0.6 0.6
GS 2.5 1.9
CA 0.8 0.8

P1 0.6

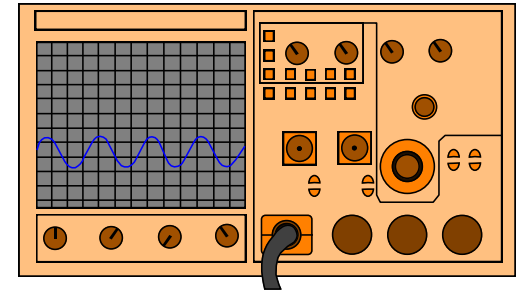
GS 1.9

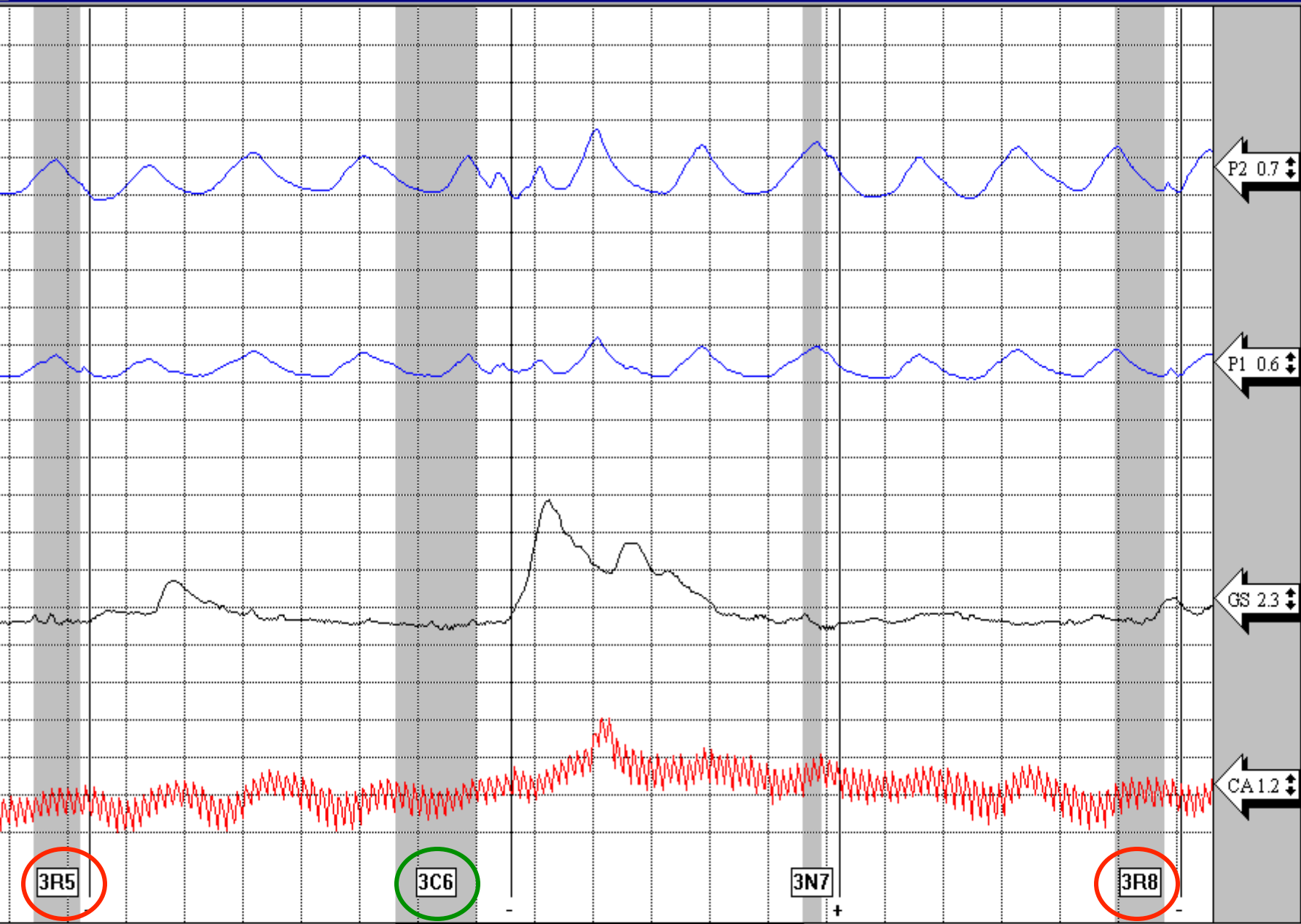
CA 0.8

C9 (N) Before joining the military, did you ever lie about anything that you don't want the CIA to find out about?

Data Collection

- London suspects possible CMs.
 - Observed slow breathing
 - not always a CM
- Why a big response on 3C6, but nothing on C9?
- London then ran the 2nd chart.
- Watched Subject very closely between questions.
 - No movements
 - No visual indicators of manipulation





Date/Time
4/30/97
6:27 PM
05:21

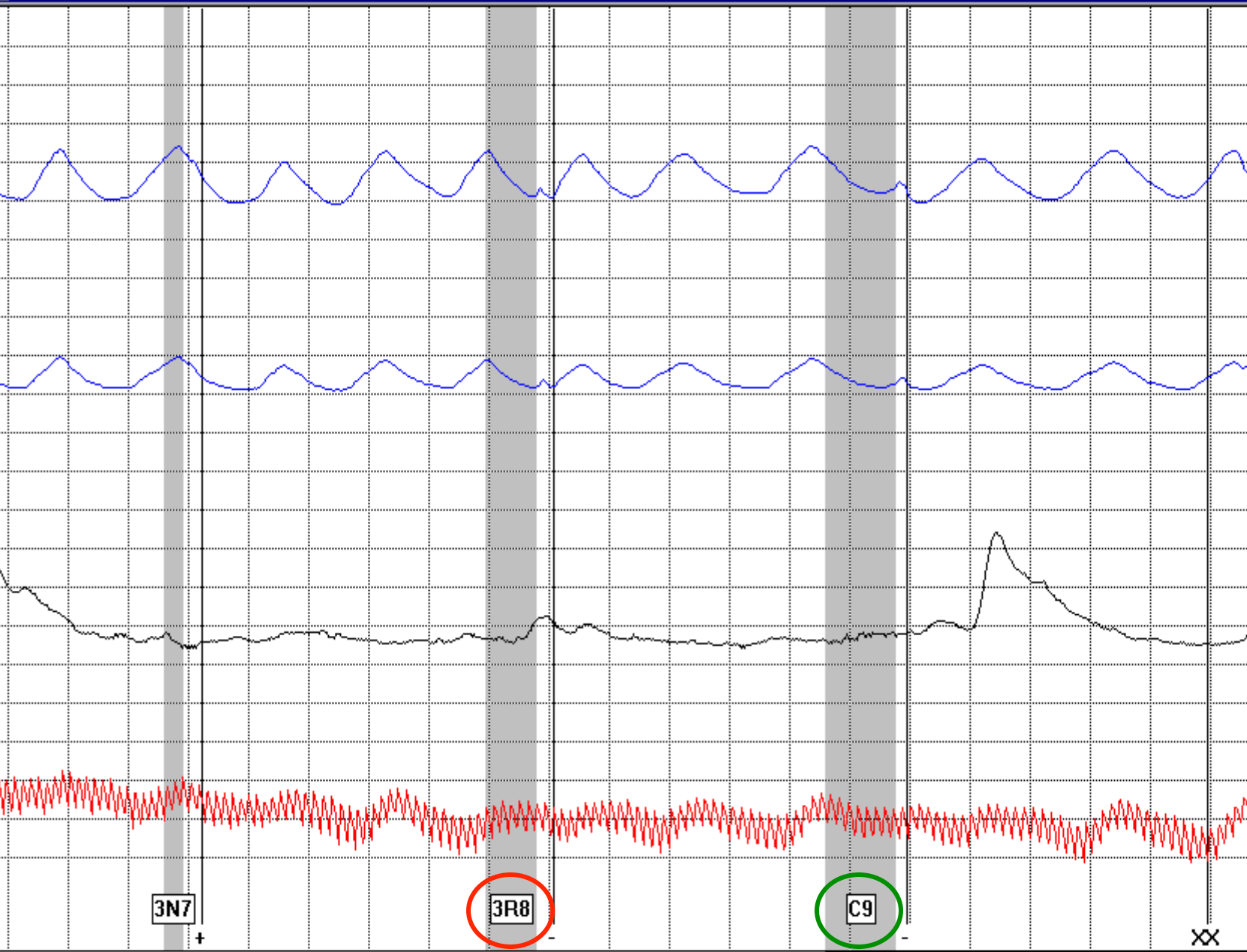
CP mmHG
X: 68
XX: 66
GSC Ohms

Avg: 37K
Min: 34K
Max: 39K

View Size
Normal

Gain Values
ID Start End
P2 0.7 0.7
P1 0.6 0.6
GS 1.9 2.3
CA 1.1 1.2

3C6 (N) OTWWD, have you ever misrepresented your academic abilities to make yourself look important?



Date/Time
4/30/97
6:27 PM
05:21

CP mmHG
X: 68
XX: 66
GSC Ohms
Avg: 37K
Min: 34K
Max: 39K

View Size
Normal

Gain Values
ID Start End
P2 0.7 0.7
P1 0.6 0.6
GS 1.9 2.3
CA 1.1 1.2

P2 0.7

P1 0.6

GS 2.3

CA 1.2

3N7

3R8

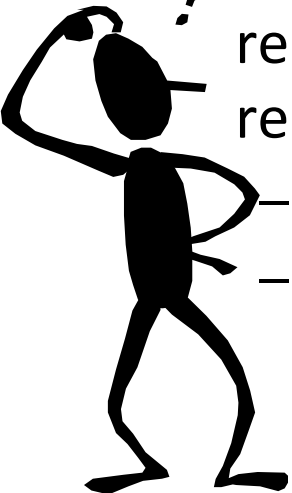
C9

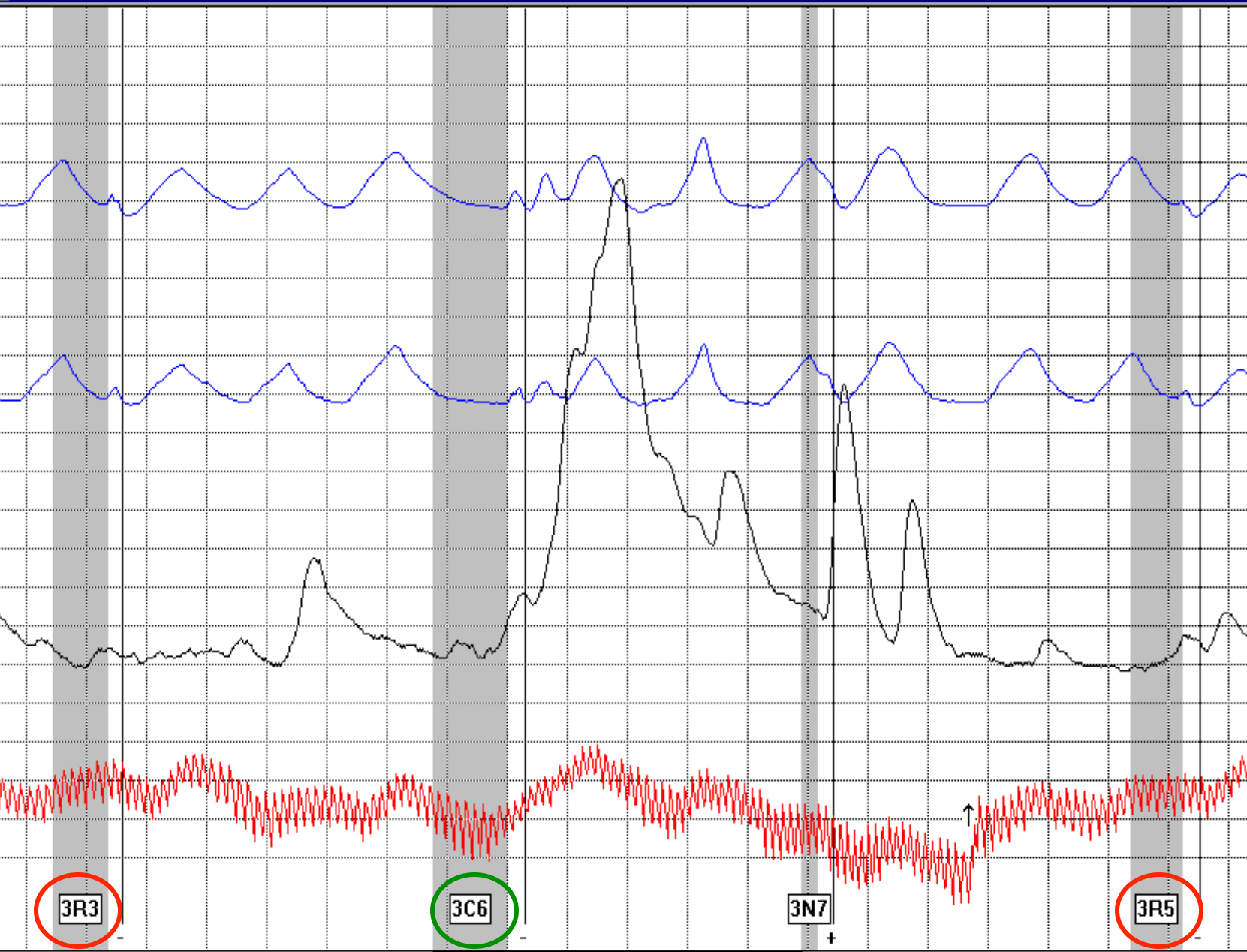
XX

C9 (N) Before joining the military, did you ever lie about anything that you don't want the CIA to find out about?

Increased Suspicion

- Slow breathing - too consistent.
- Controls - too much response.
- Controls - similar responses; like from a cookie cutter.
- Never looked at examiner between charts.
- Unable to determine exactly *what* John was doing to create the reactions, London decided to run a 3rd chart to verify that the reactions were deliberate.
 - Watched more intensely
 - Repeated controls back-to-back to collect evidence that supported Subject using CMs





4/30/97
6:33 PM
06:00

X: 72
XX: 74

Avg: 36K
Min: 33K
Max: 38K

Normal

| ID | Start | End |
|----|-------|-----|
| P2 | 0.7 | 0.7 |
| P1 | 0.6 | 1.0 |
| GS | 2.3 | 3.0 |
| CA | 1.2 | 1.0 |

P2 0.7

P1 1.0

GS 3.0

CA 1.0

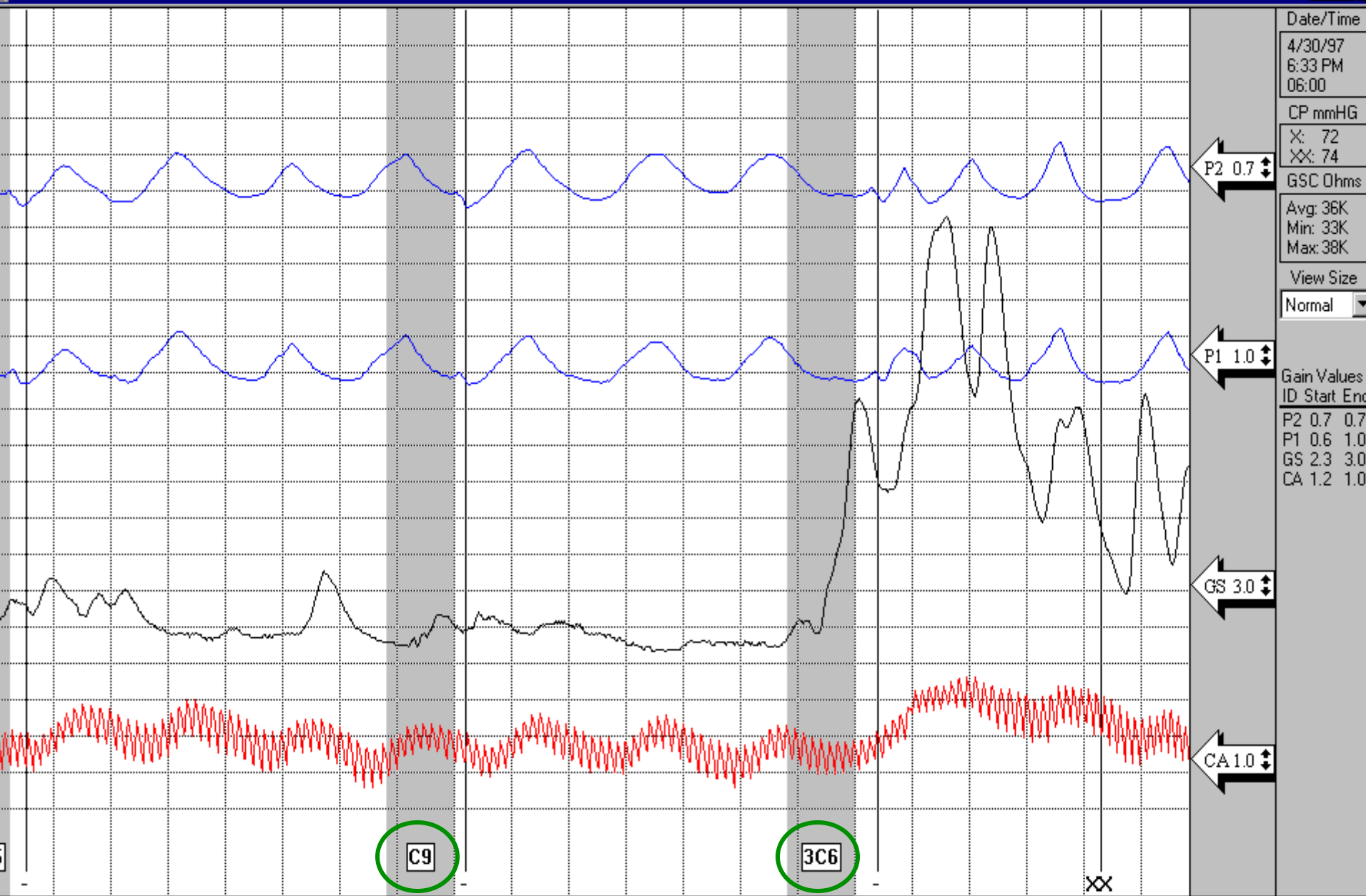
3R3

3C6

3N7

3R5

3C6 (N) OTWWD, have you ever misrepresented your academic abilities to make yourself look important?



C9 (N) Before joining the military, did you ever lie about anything that you don't want the CIA to find out about?

Posttest on CMs

- Interrogated re manipulating the test. London didn't mention the C word.
- At first - who me?
- Themes
 - it was obvious what he was doing
 - credibility diminishing
 - too smart to throw everything away
 - conducting an experiment



Subject's Confession re: Preparation

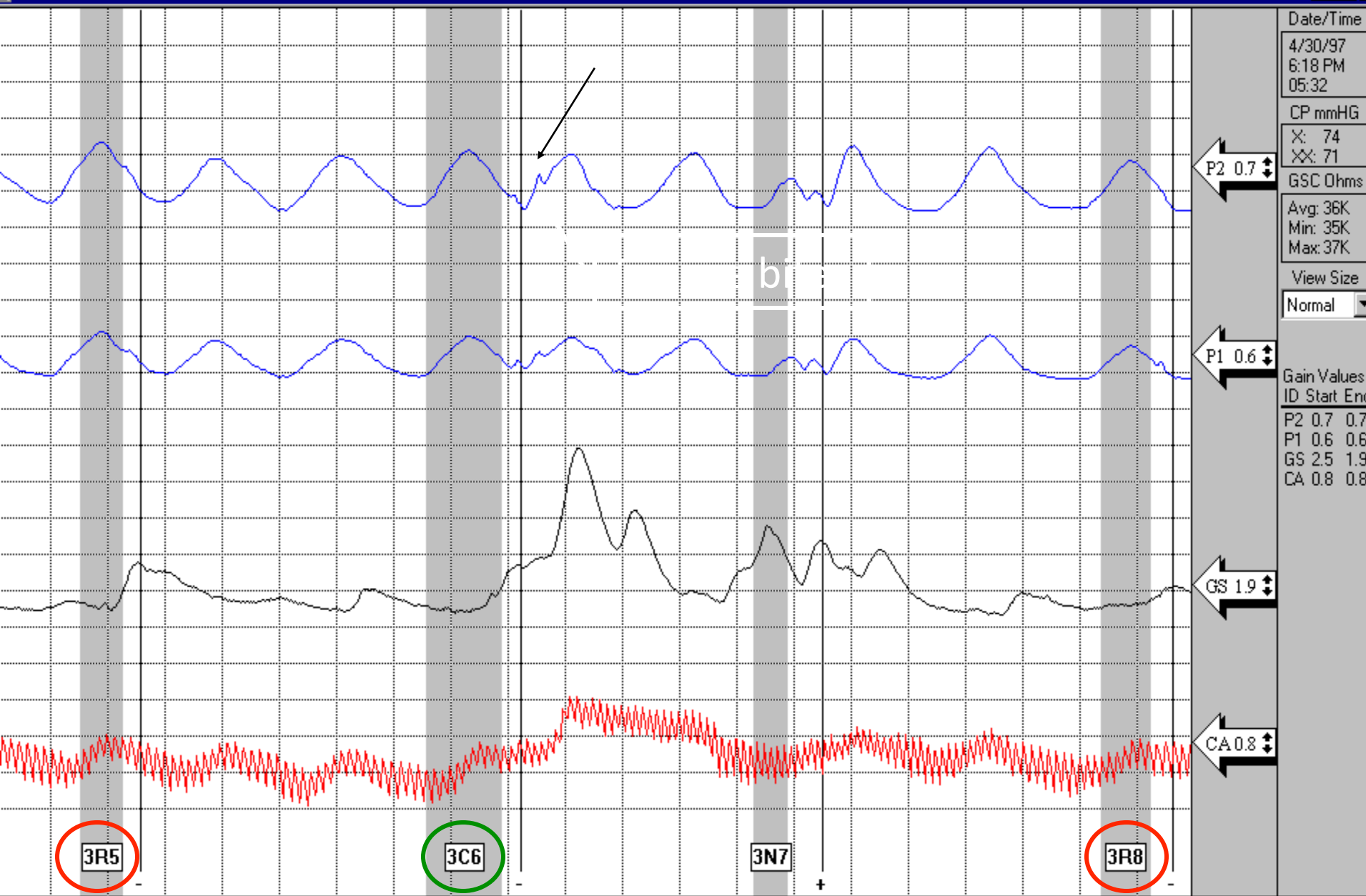


- When he was called back for a third exam, he decided to apply countermeasures.
- Accessed Internet and library resources
- Bought and studied “How to Sting the Polygraph”
- Called Doug Williams to discuss CM strategy.
- Tried buying polygraph
- Bought cardio cuff to practice sphincter & tongue bite.
- Practiced controlling his breathing.
- Thought out and rehearsed a detailed CM strategy involving behavioral and physical CMs.

Subject's Confession

Regarding CMs

- Biting tongue on charts 1& 2
- Anal sphincter contracted on chart 3
- Would not look at examiner
- He did not recognize C9 as a CQ, hence did nothing on that question.



3C6 (N) OTWWD, have you ever misrepresented your academic abilities to make yourself look important?

PolyScore results: NDI

PolyScore® for Windows Version 5.5

No Deception Indicated--
Probability of Deception is Less Than .01

Zone/MGQT Zone/MGQT Zone/MGQT

Charts Used

| | | | | | | | | | | | |
|----------------|---------|------------|-------|--------------|---------|---------|---------|---------|--------|---------|----|
| EXAMI\CHART1-- | MGQTBD3 | 1997/04/30 | 15:18 | aaaaaaaaaaaa | vvvvvvv | vvvvvvv | QIG= 86 | QIC= 99 | Rates: | Resp= 6 | Pu |
| EXAMI\CHART2-- | MGQTBD3 | 1997/04/30 | 15:27 | aaaaaaaaaaaa | vvvvvvv | vvvvvvv | QIG= 68 | QIC= 98 | Rates: | Resp= 7 | Pu |
| EXAMI\CHART3-- | MGQTBD3 | 1997/04/30 | 15:33 | aaaaaaaaaaaa | vvvvvvv | vvvvvvv | QIG= 88 | QIC= 98 | Rates: | Resp= 7 | Pu |

Spot/Vertical Scores

| | | |
|------|-----|--|
| 0.02 | 3R5 | Have you been offered any money to work for a FIS? |
| 0.01 | 3R8 | Have you secretly provided the ^{aaaaa} technology to any foreign goverment? |
| 0.00 | 3R3 | Have you been directed to penetrate the CIA by any foreign intelligence service? |

Approximate Signal Weights

| | |
|----------------------|-------|
| Respiration | +0.39 |
| Blood Volume | +0.30 |
| Electrodermal | +0.29 |

How & why he was caught

- Peter London was alert for countermeasures.
- Once his suspicions were aroused, he devised a plan for confirming their use.
- He interrogated. He persisted.
 - He didn't accuse him of using countermeasures.
 - He provided plausible rationalizations.
 - He provided advantages for coming clean about them.

Types of CMs

MENTAL

- Spontaneous Countermeasures
- Specific Point Countermeasures
- General State Countermeasures

PHYSICAL

- Spontaneous Countermeasures
- Specific Point Countermeasures

PHARMACEUTICAL

- General State Countermeasures

BEHAVIORAL (Krapohl 1996)

- General State Countermeasures

Sophistication Levels

Low Level

- Instinctive, not taught. No authoritative information.
- Pre-internet (before 90's)

Mid Level

- Self taught. Knows about polygraphs, CQTs, CMs
- Primary threat today because of internet

High Level

- Trained. Coached by an examiner.
- Practice tests.

General State CMs

- Include anything that a subject might do to affect him or herself throughout the test. They include:
 - Pharmaceutical
 - Fatigue
 - Anti-perspirant applied to the fingers
- Used to inhibit reactions. Mainly drugs, some mental, but seldom physical in nature.
- *NONE of these are likely to be effective against the CQT, although they might be effective against the GKT.....don't know for sure.*

Spontaneous CMs

- Spontaneous CMs are attempts at influencing the examination outcome and are conducted without apparent forethought or planning.
- Usually movement or mental CMs
- Limited field data on spontaneous CMs.

Examples of Spontaneous CMs

- Honts, Raskin, Kircher & Hodes, 1988 reported the following spontaneous countermeasures:

Mental Countermeasures

- Relaxation
- Disassociation
- Self-deception
- Imagery
- Rationalization

Physical Countermeasures

- Attempts to Control Breathing
- Biting Tongue
- Attempts to Control Heart Rate
- Attempts to Control Physiology
- Pressing the Toes to the Floor

Specific Point CMs

- Specific Point CMs attempt to alter a polygraph test outcome by changing a subjects physiological reactivity at specific places in the test.
- *Turned off and on at specific points*
- Movement CMs, biting tongue, pressing toes against floor

Specific Point CMs

- Almost always used to create reactions, not inhibit them.
- Always mental and physical, never chemical/drug.
- Effective against CQT. Probably effective against GKTs, though less so, because use is suspicious.
- Presumed largely ineffective against R&I tests.

Mental CMs

Hypnosis

- Attempts to create amnesia

Rationalization

- Self justification to reduce responses

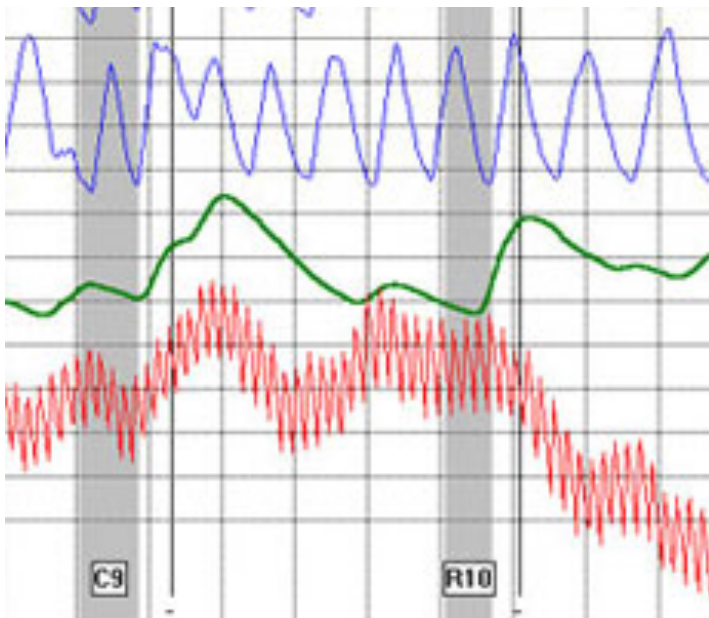
Mental Exercises

- Math, Exciting thoughts, counting and other thinking exercises

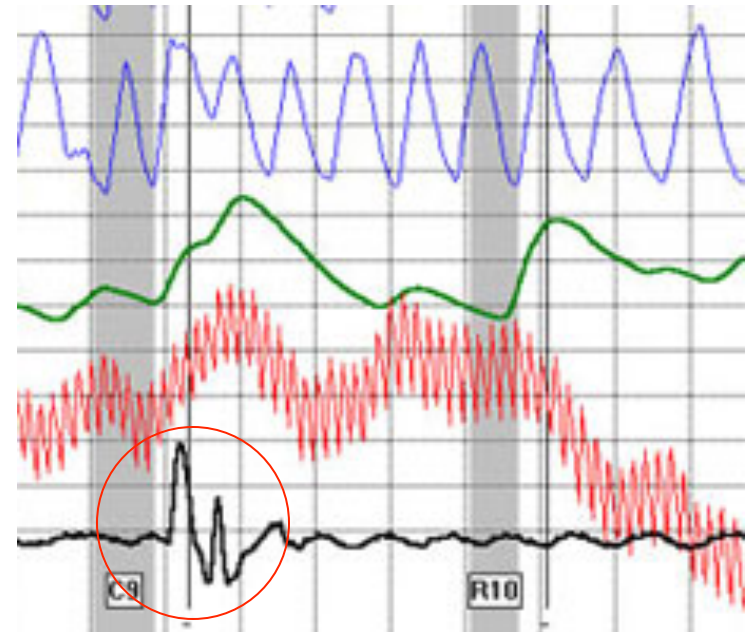
Dissociation

- Mentally isolated from consciousness

Use a Motion Sensor!



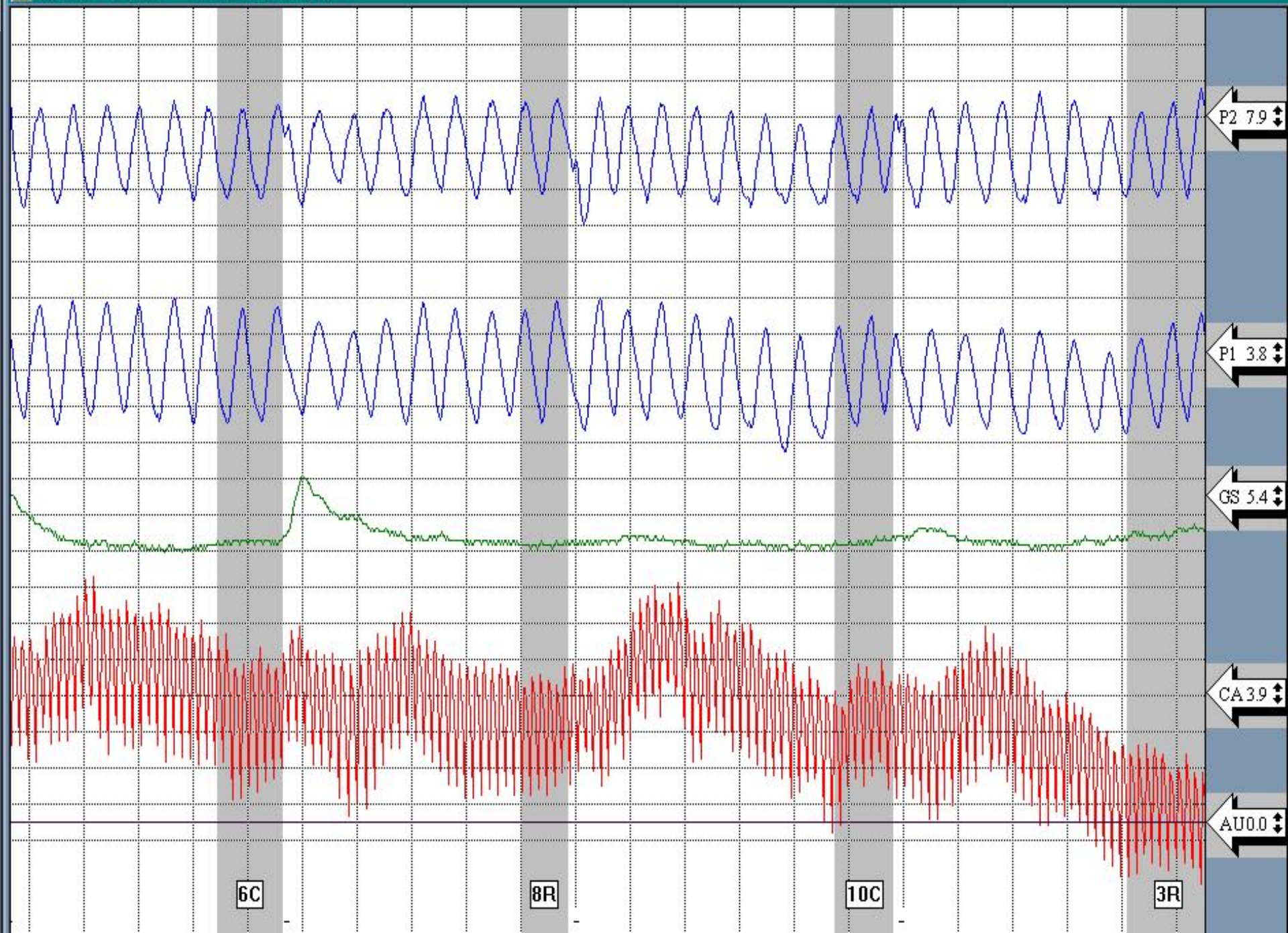
Without CM Sensor Detection

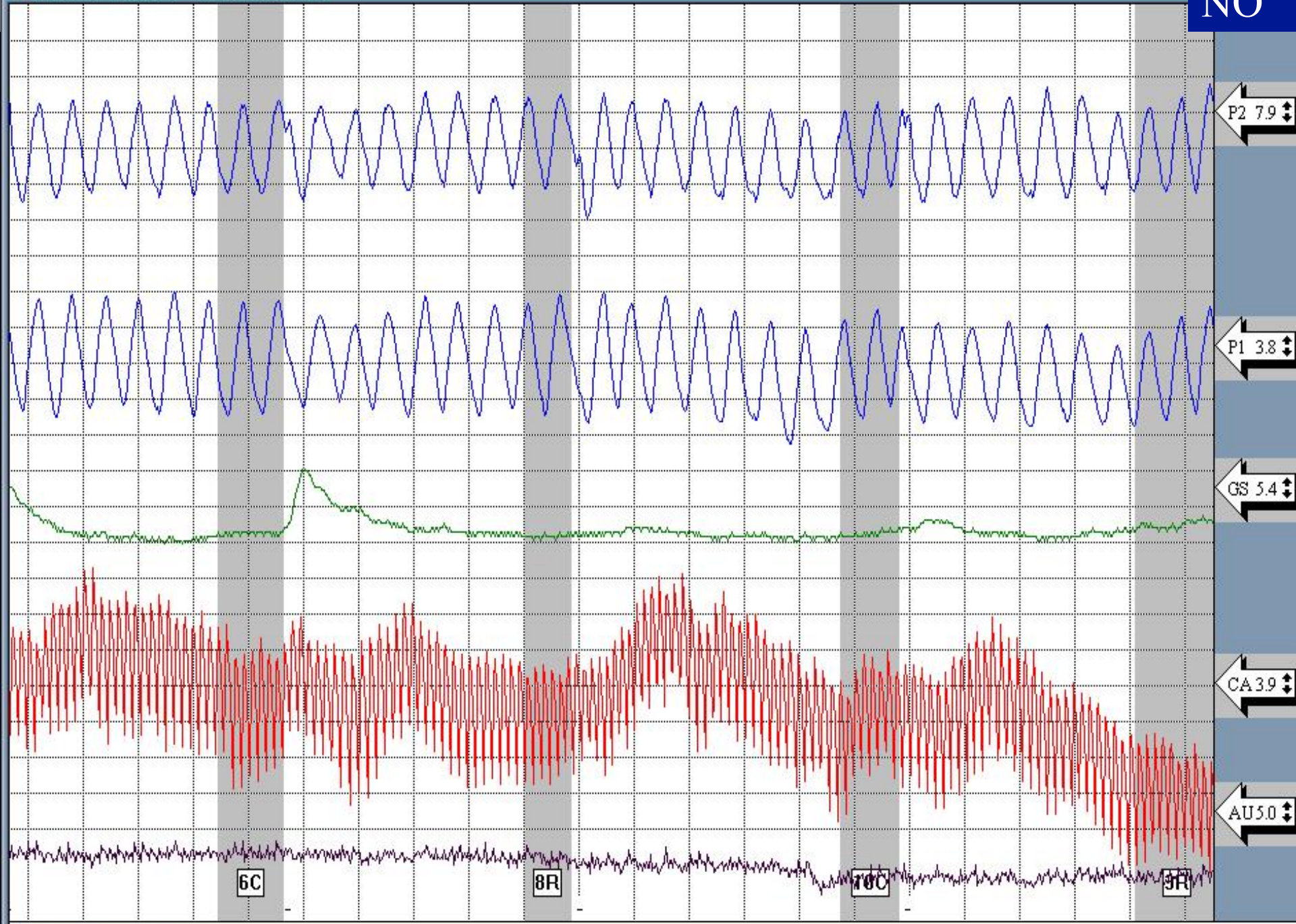


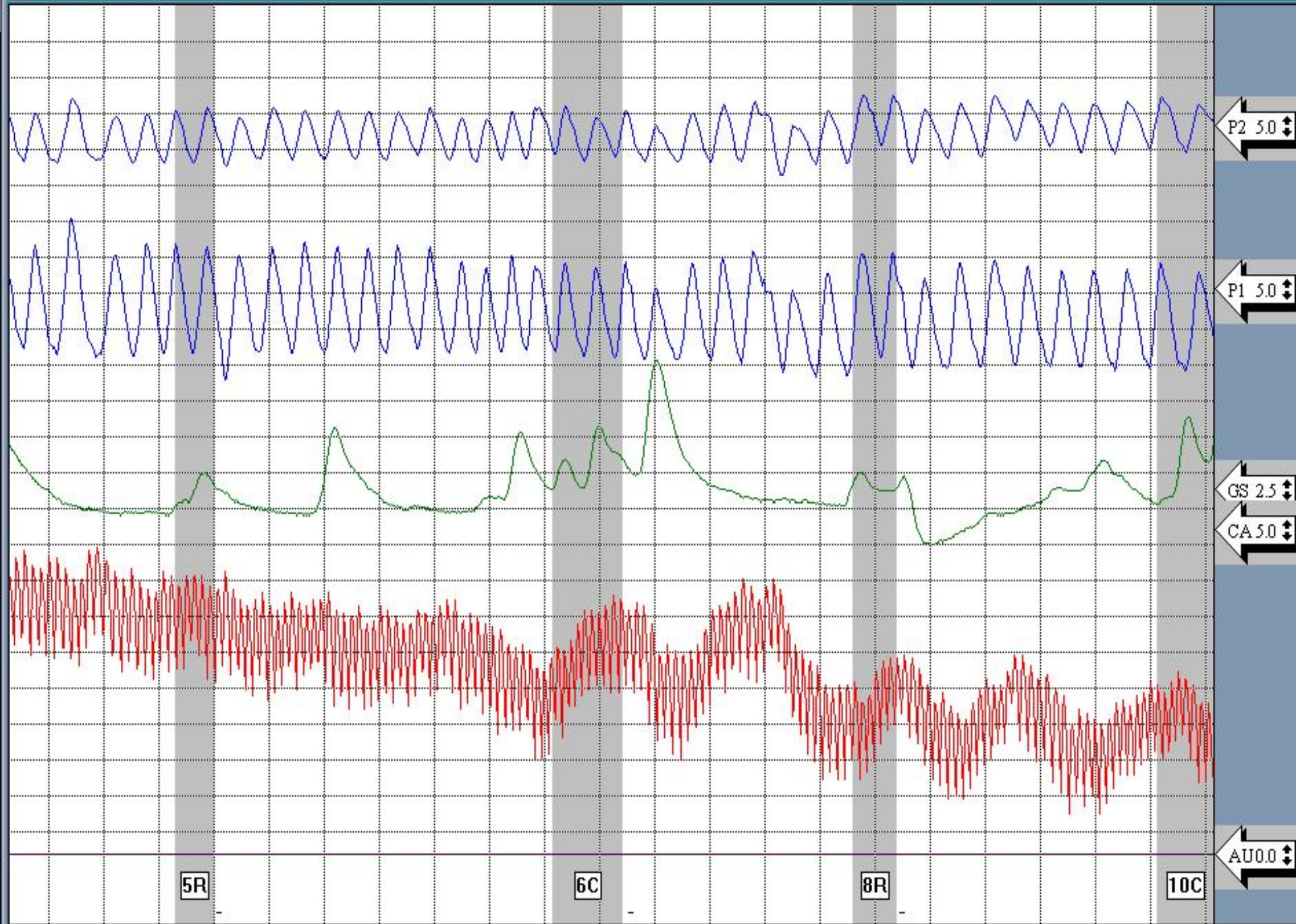
With CM Sensor Detection

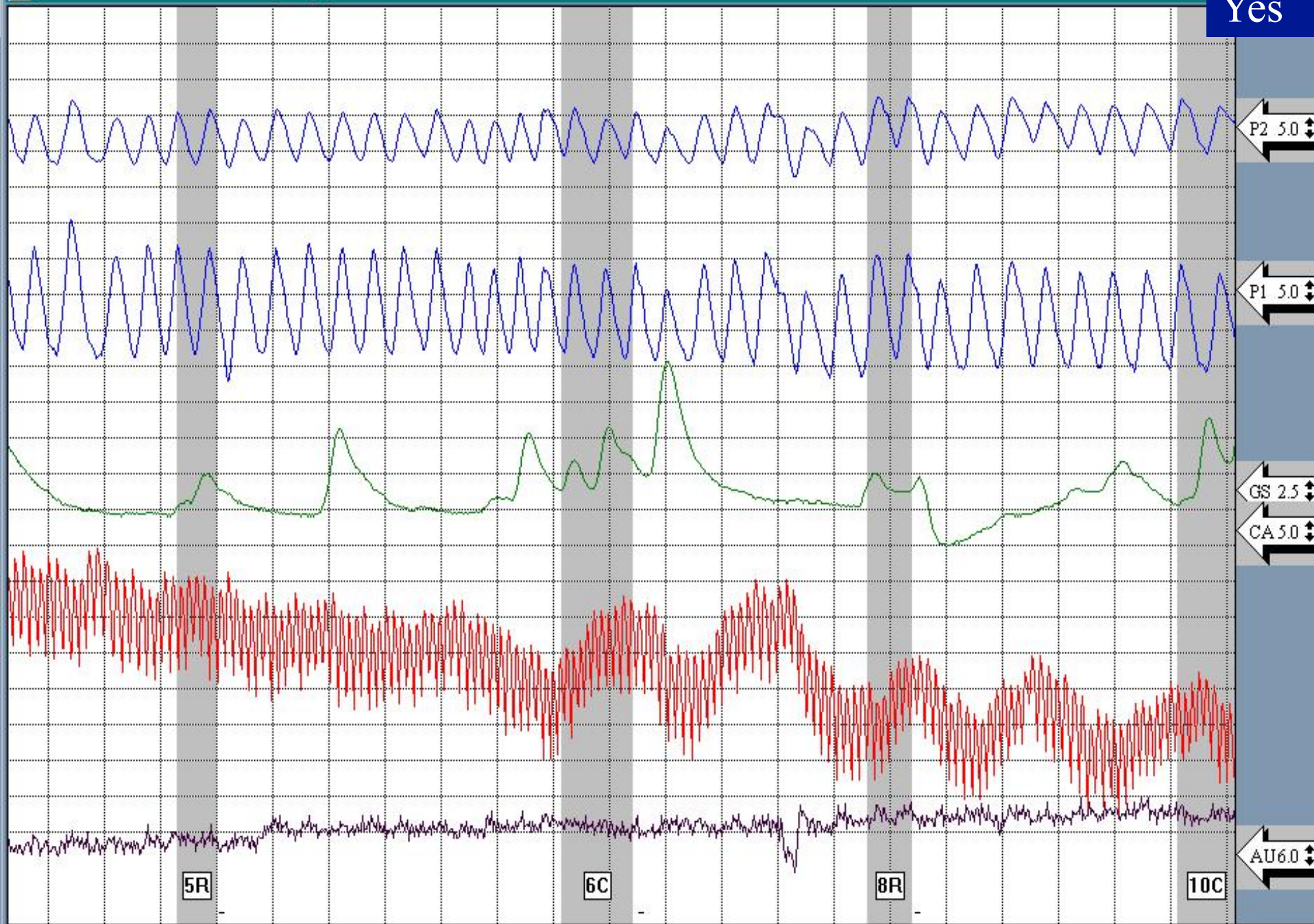
Rules

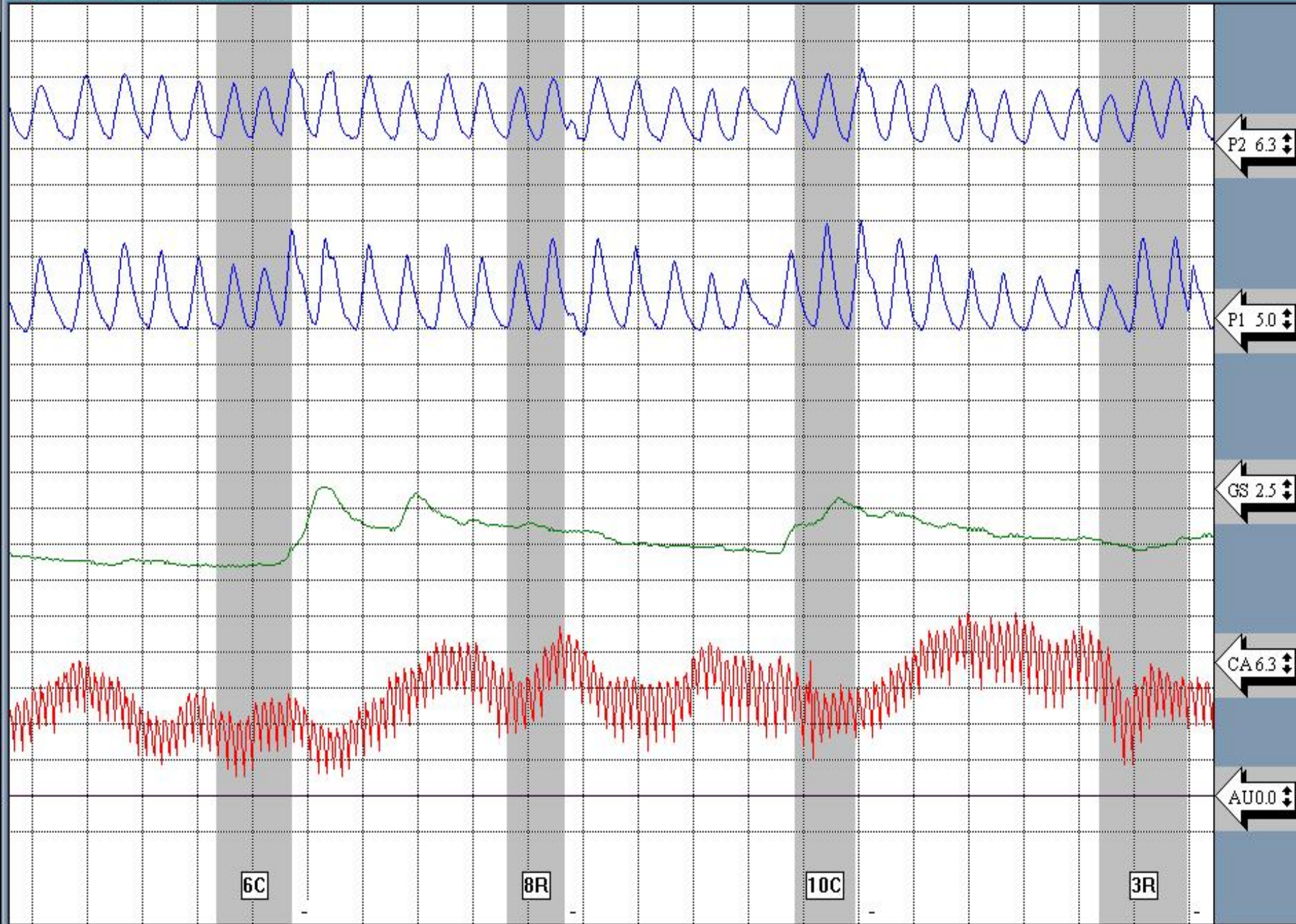
- Look at the chart.
- Decide whether the examinee is attempting to manipulate the tracings.
- After each chart I will show the same chart with the motion sensor turned on.
- All, none, or some of them are manipulated.
- **Ready?**

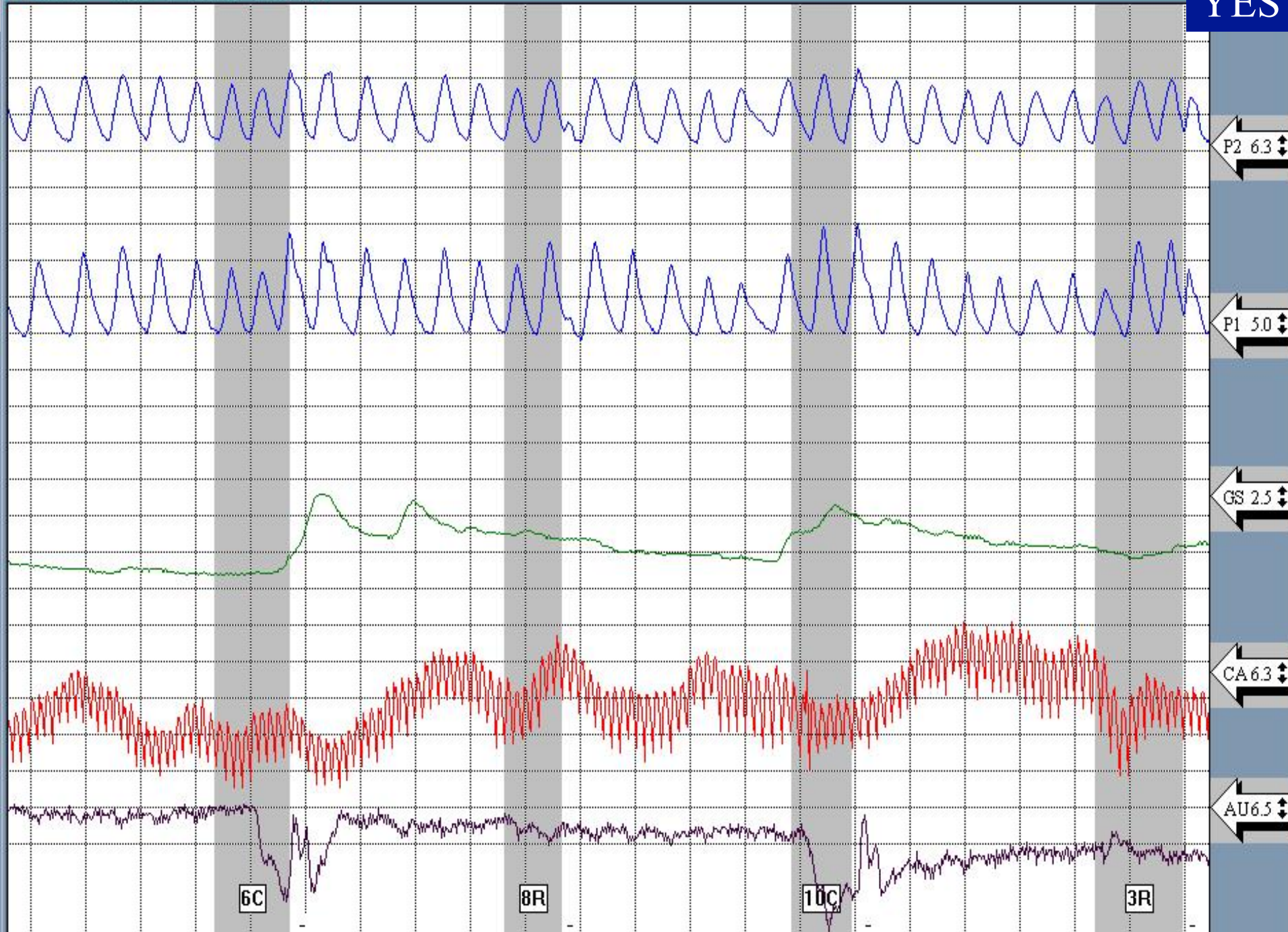


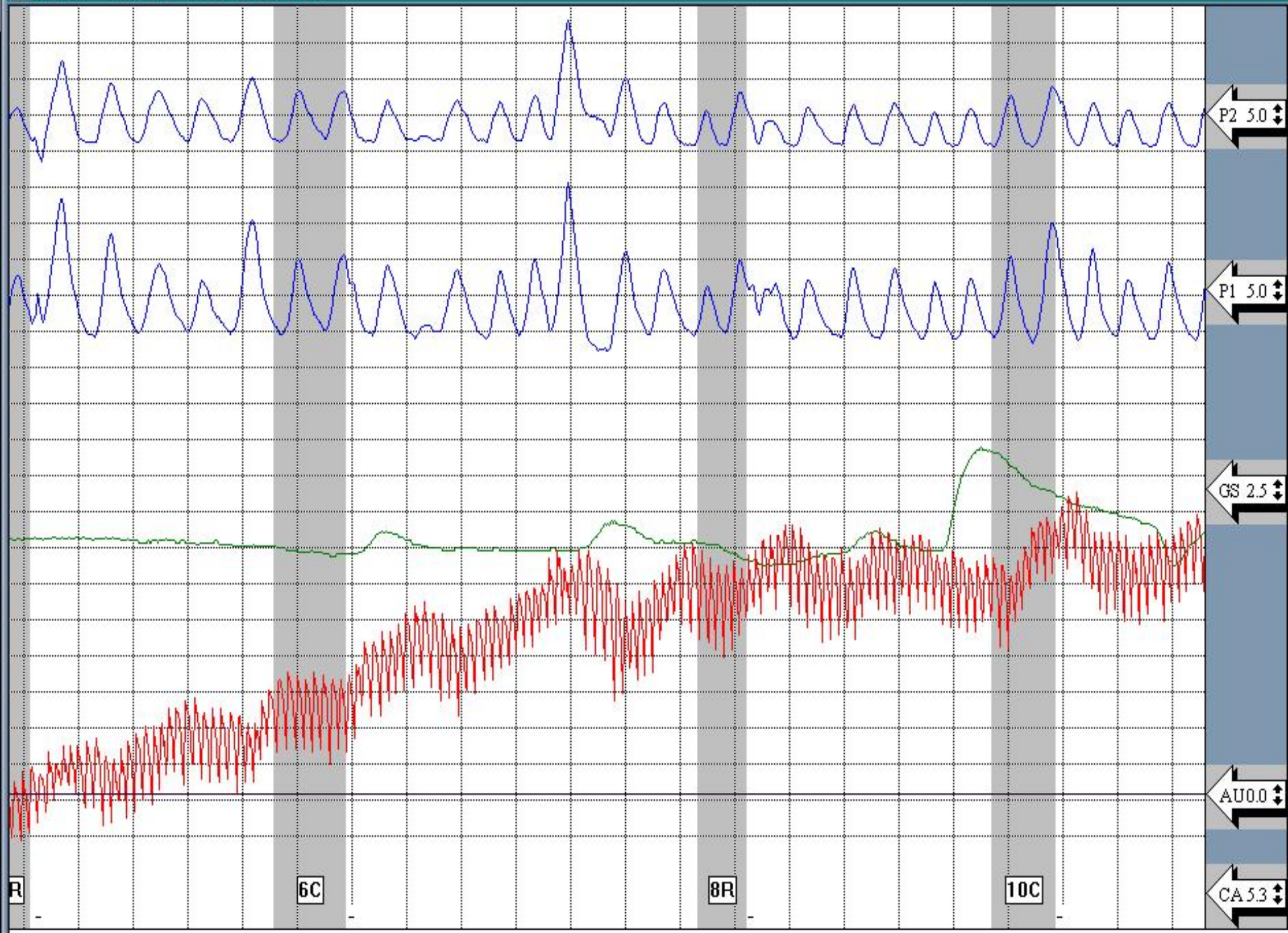


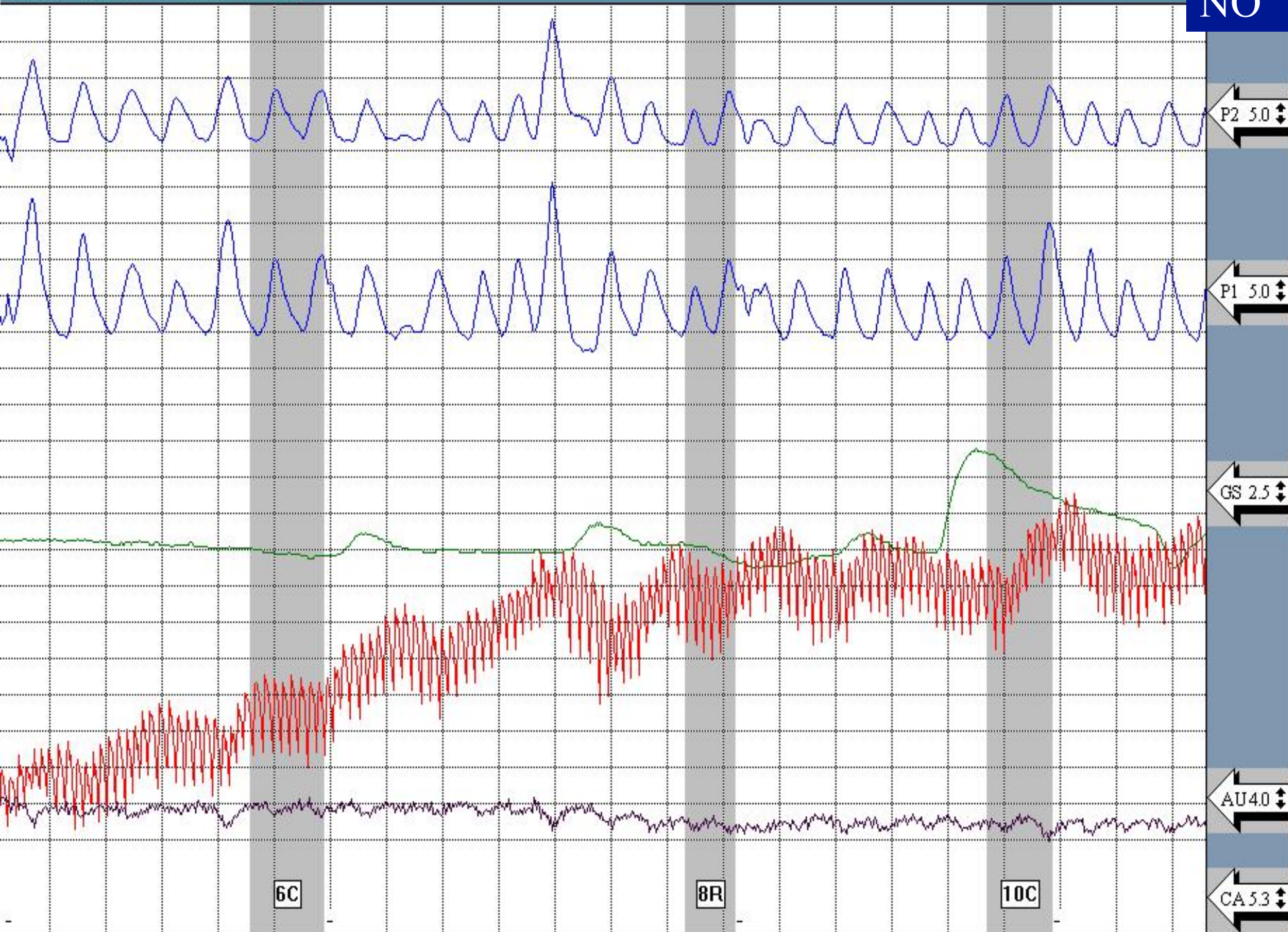


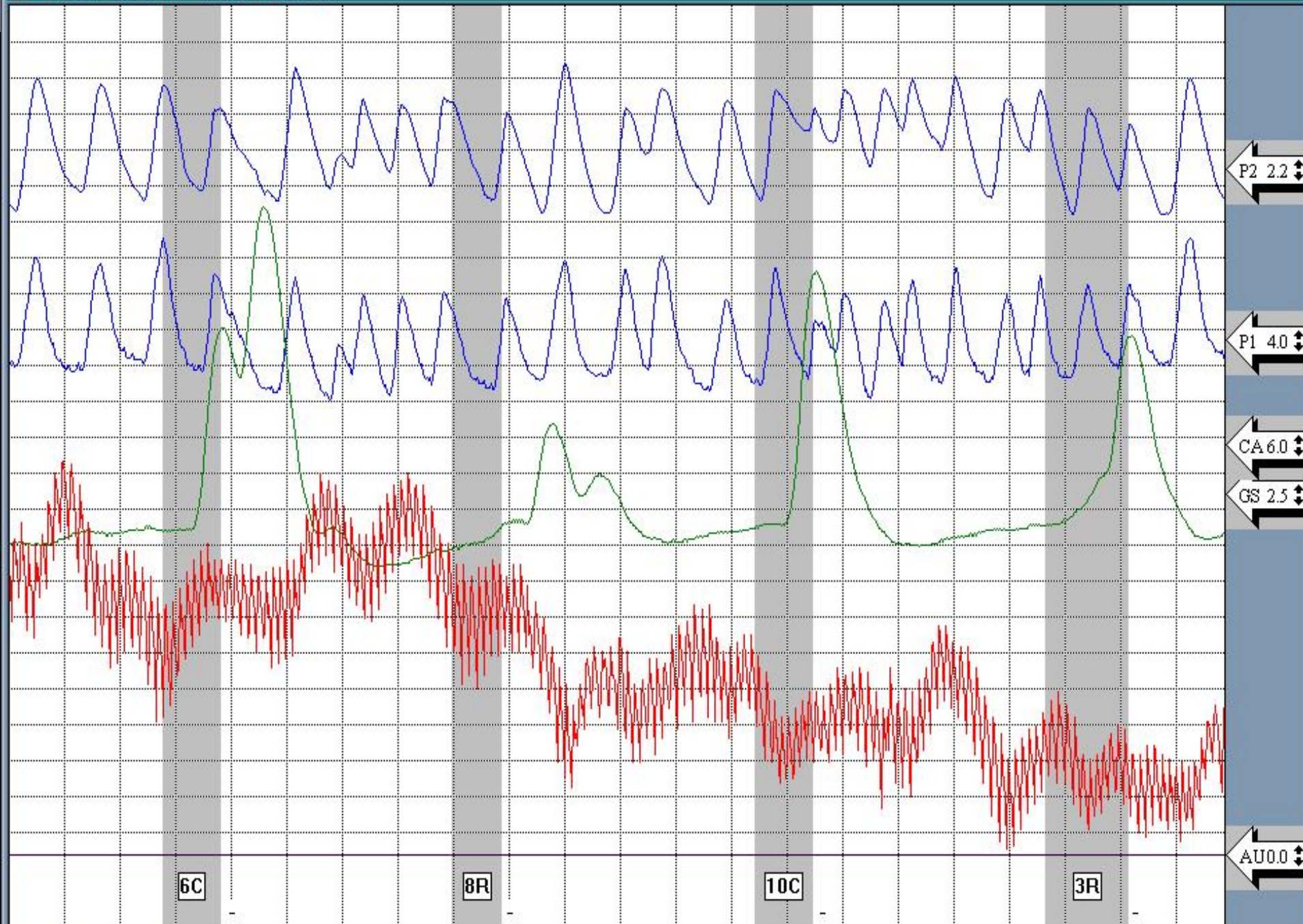


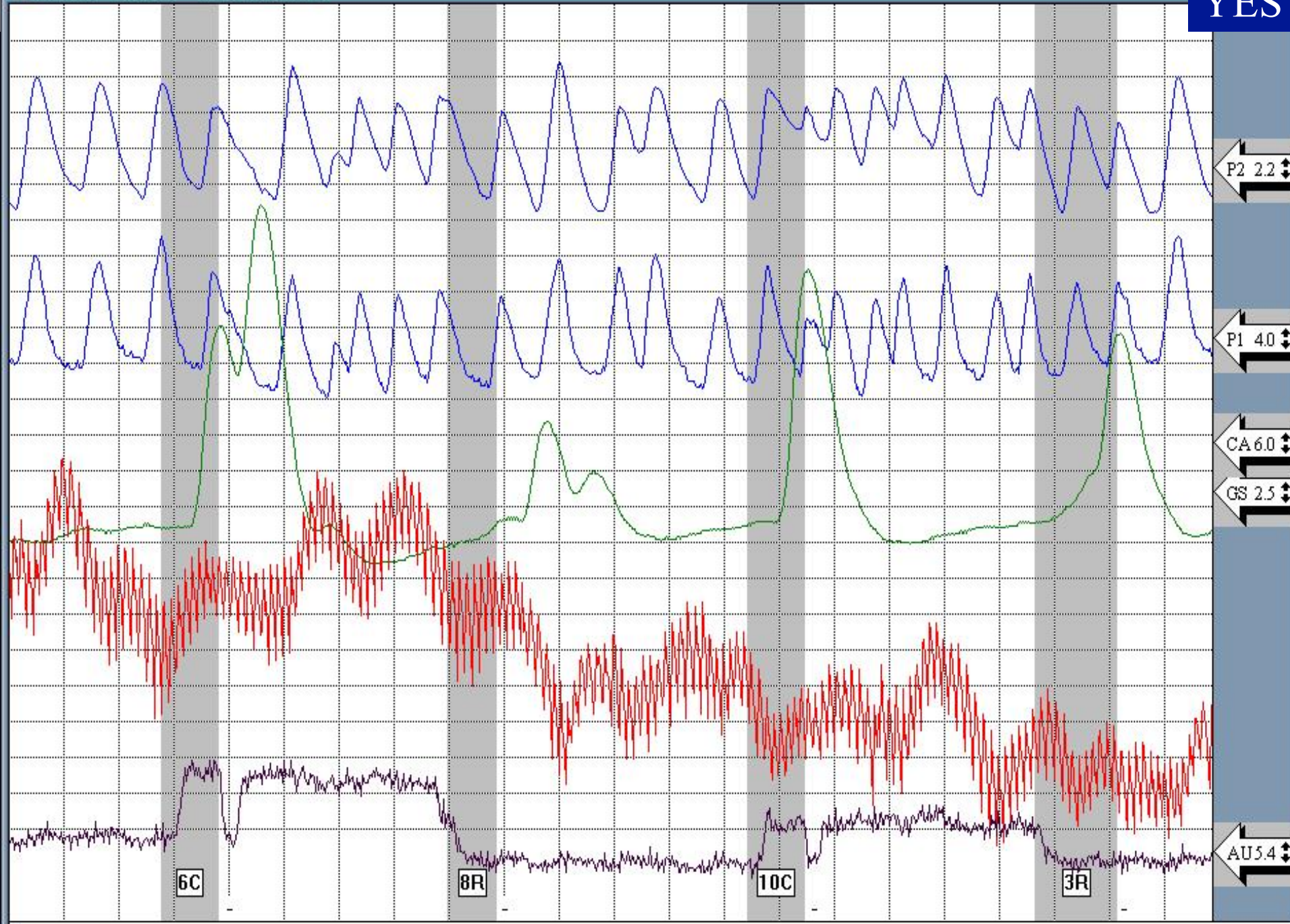












6C

8R

10C

3R

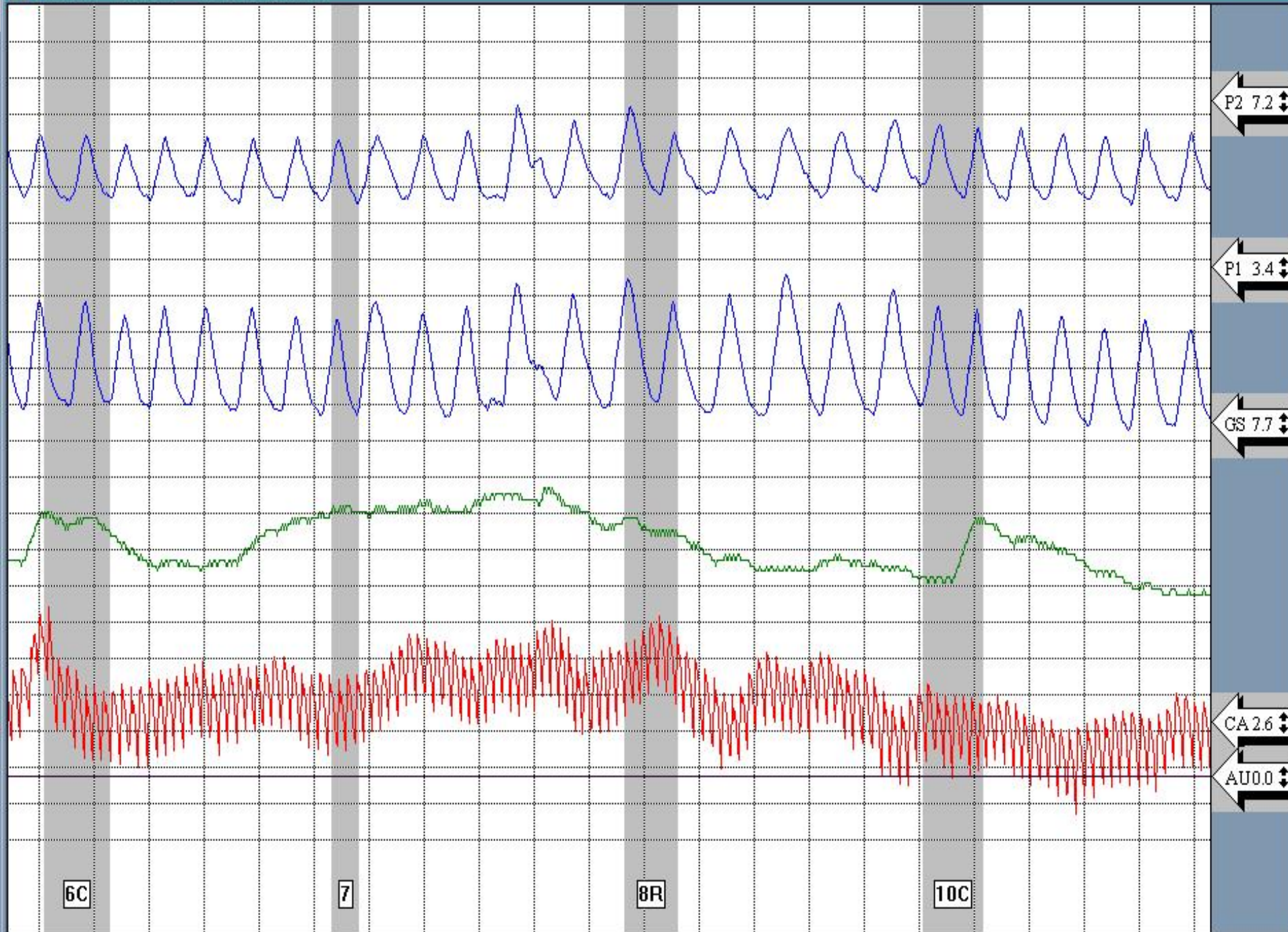
P2 2.2

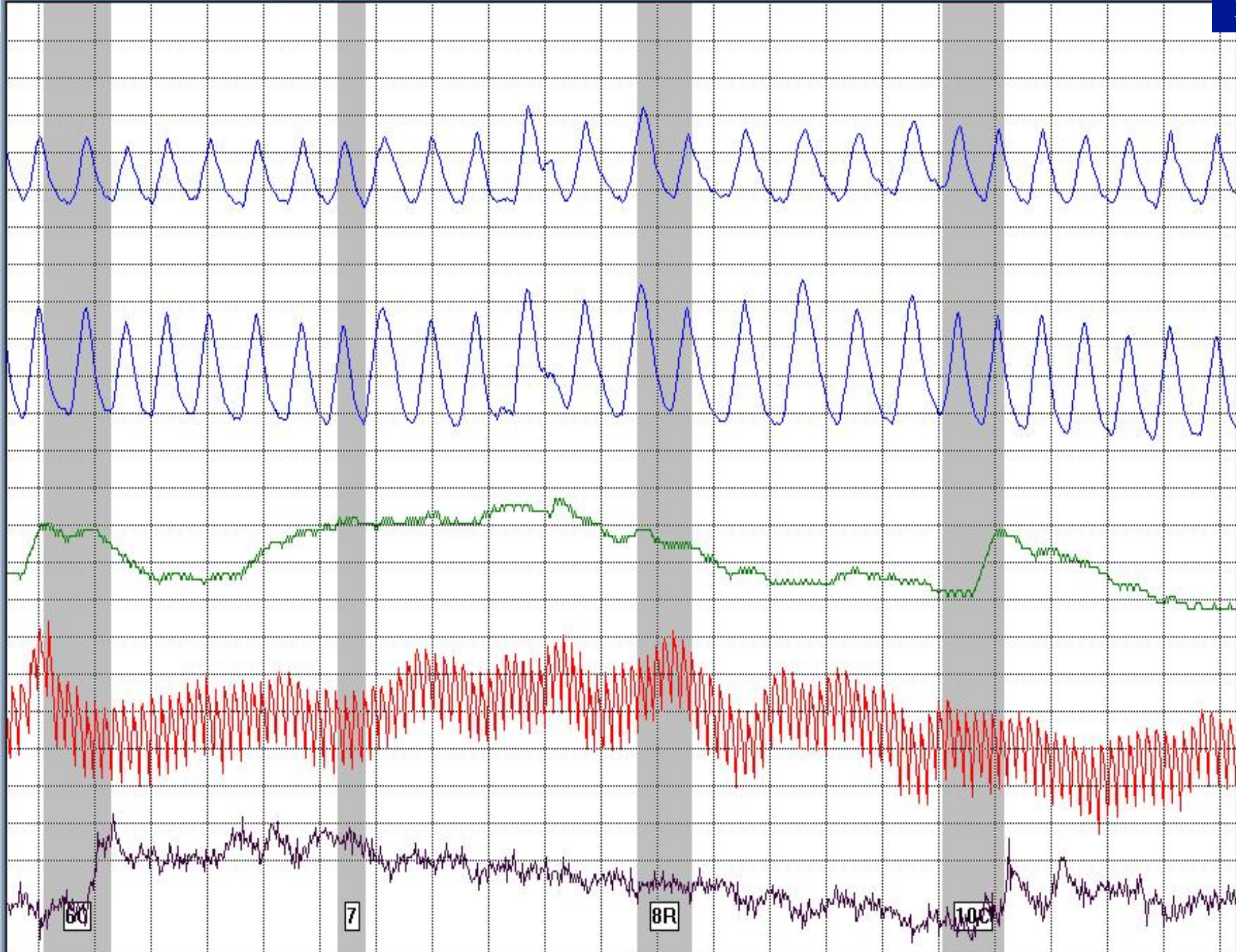
P1 4.0

CA 6.0

GS 2.5

AU 5.4





P2 7.2

P1 3.4

GS 7.7

CA 2.6

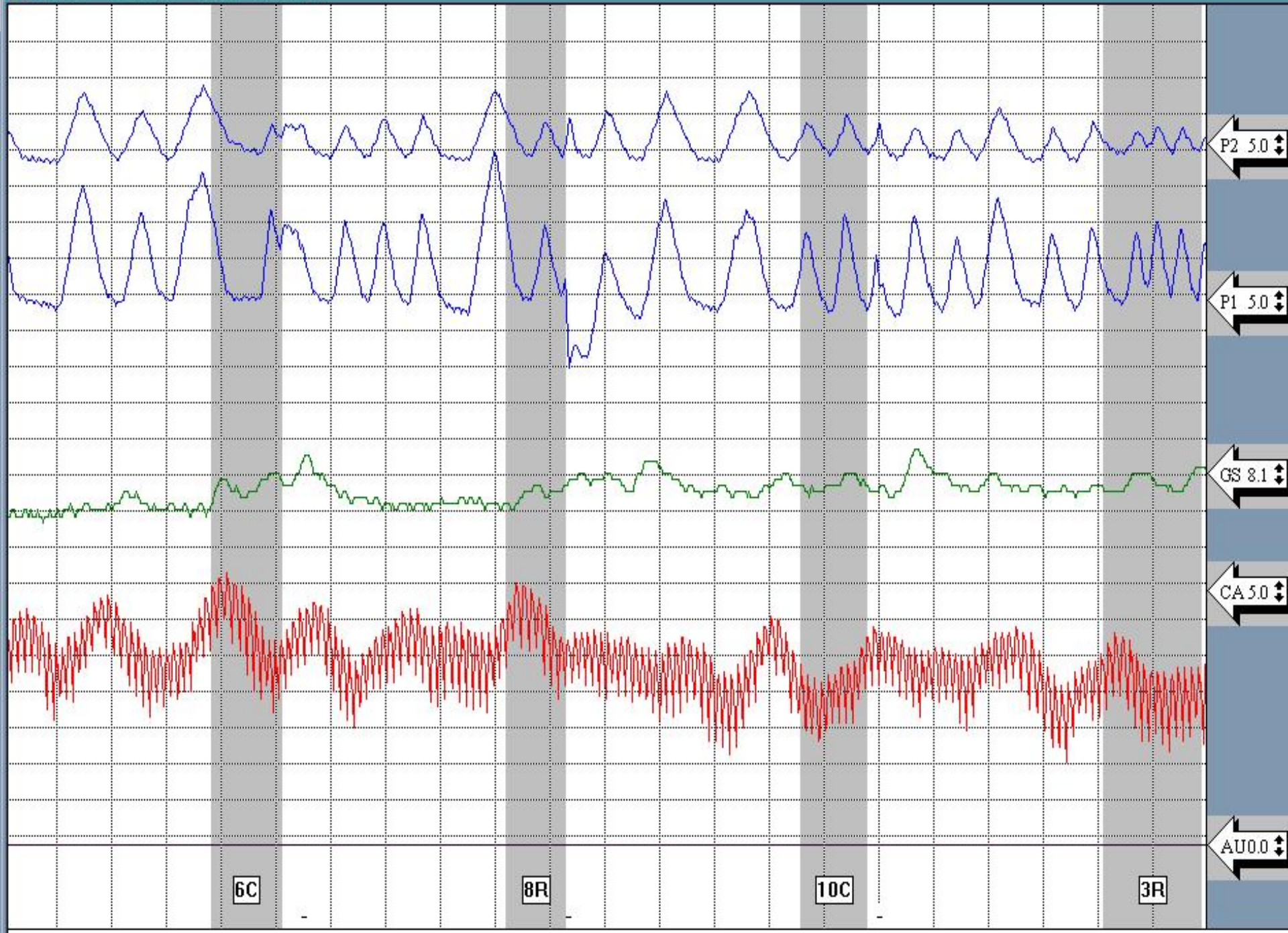
AU 1.0

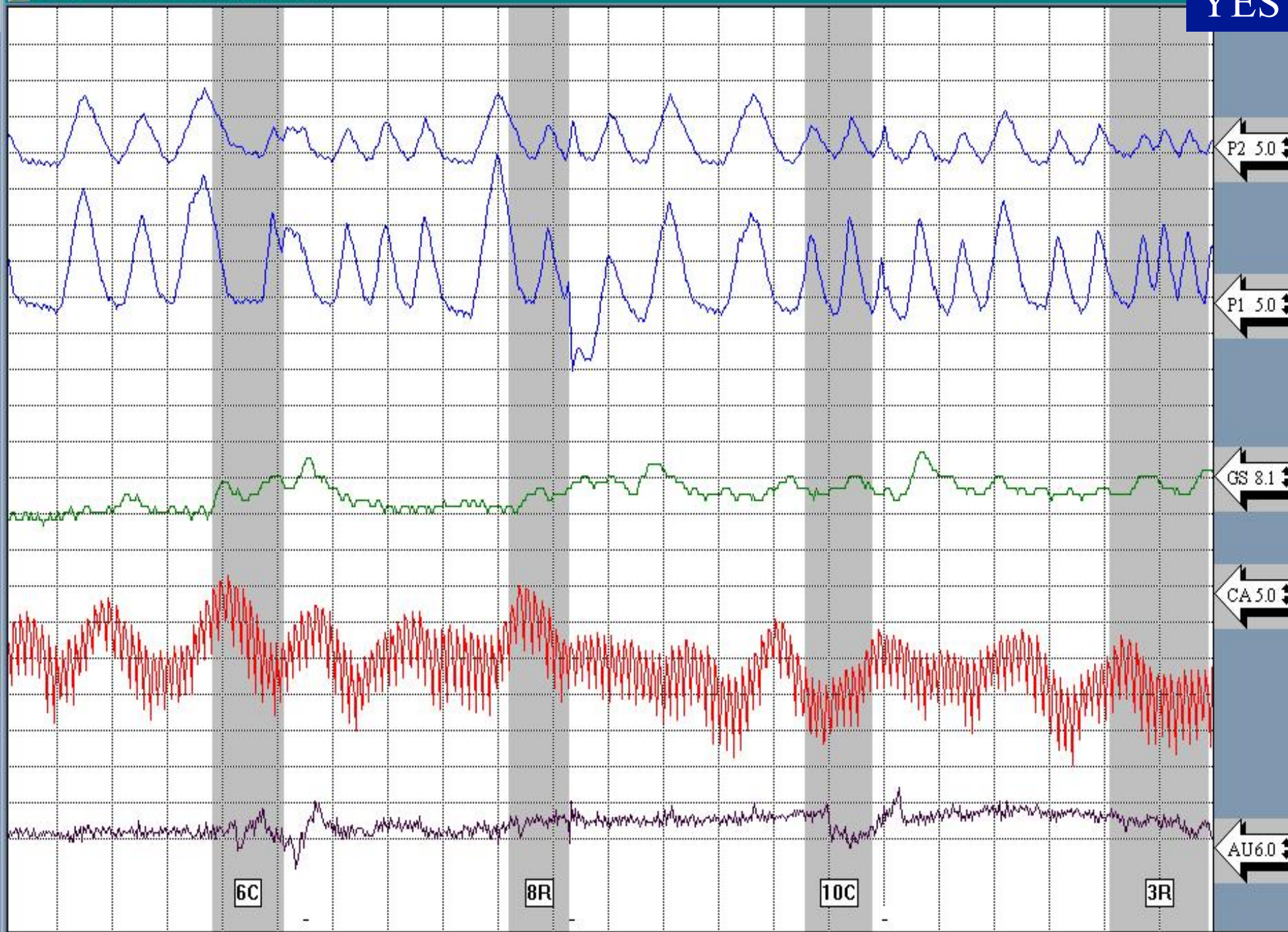
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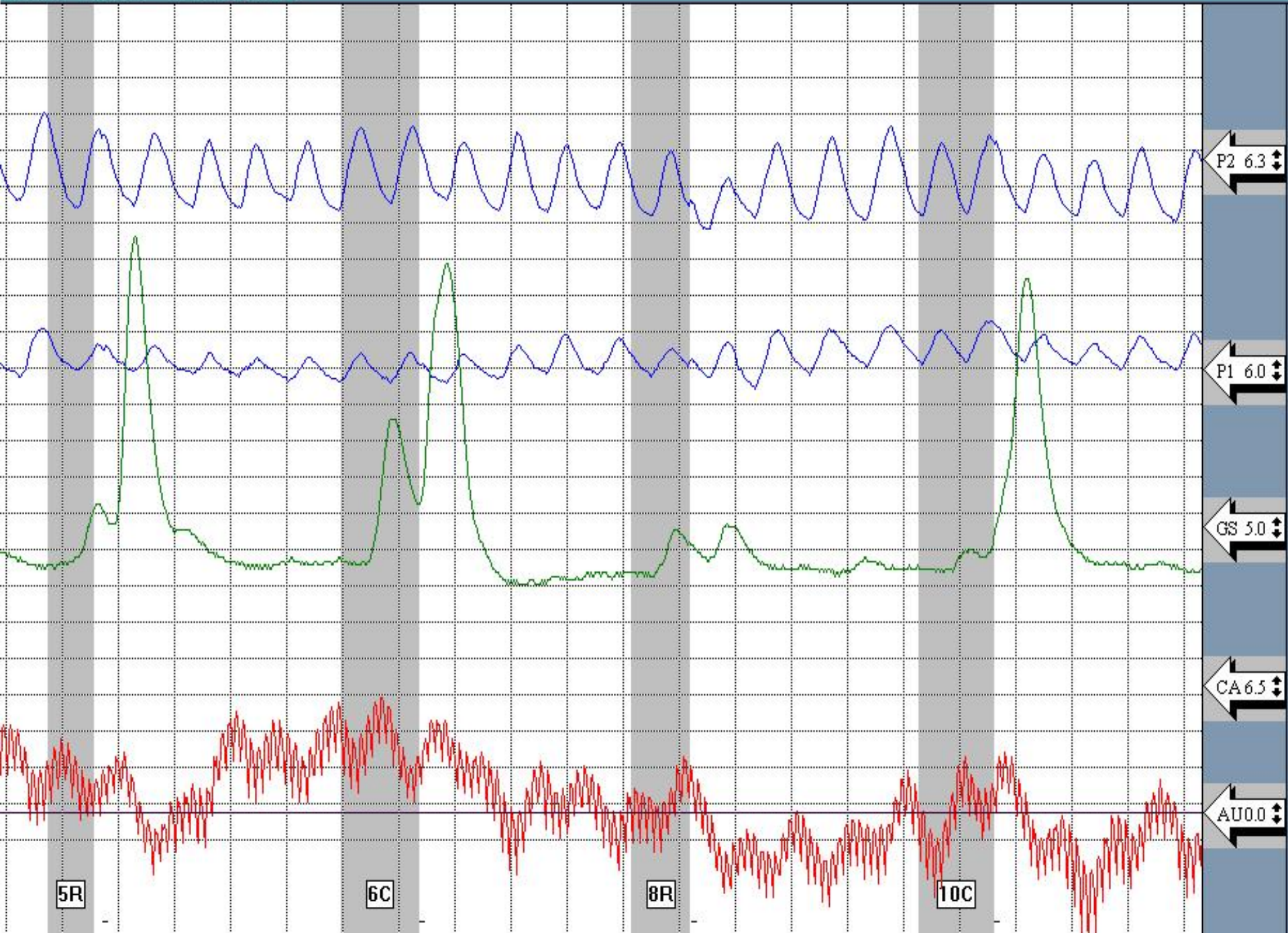
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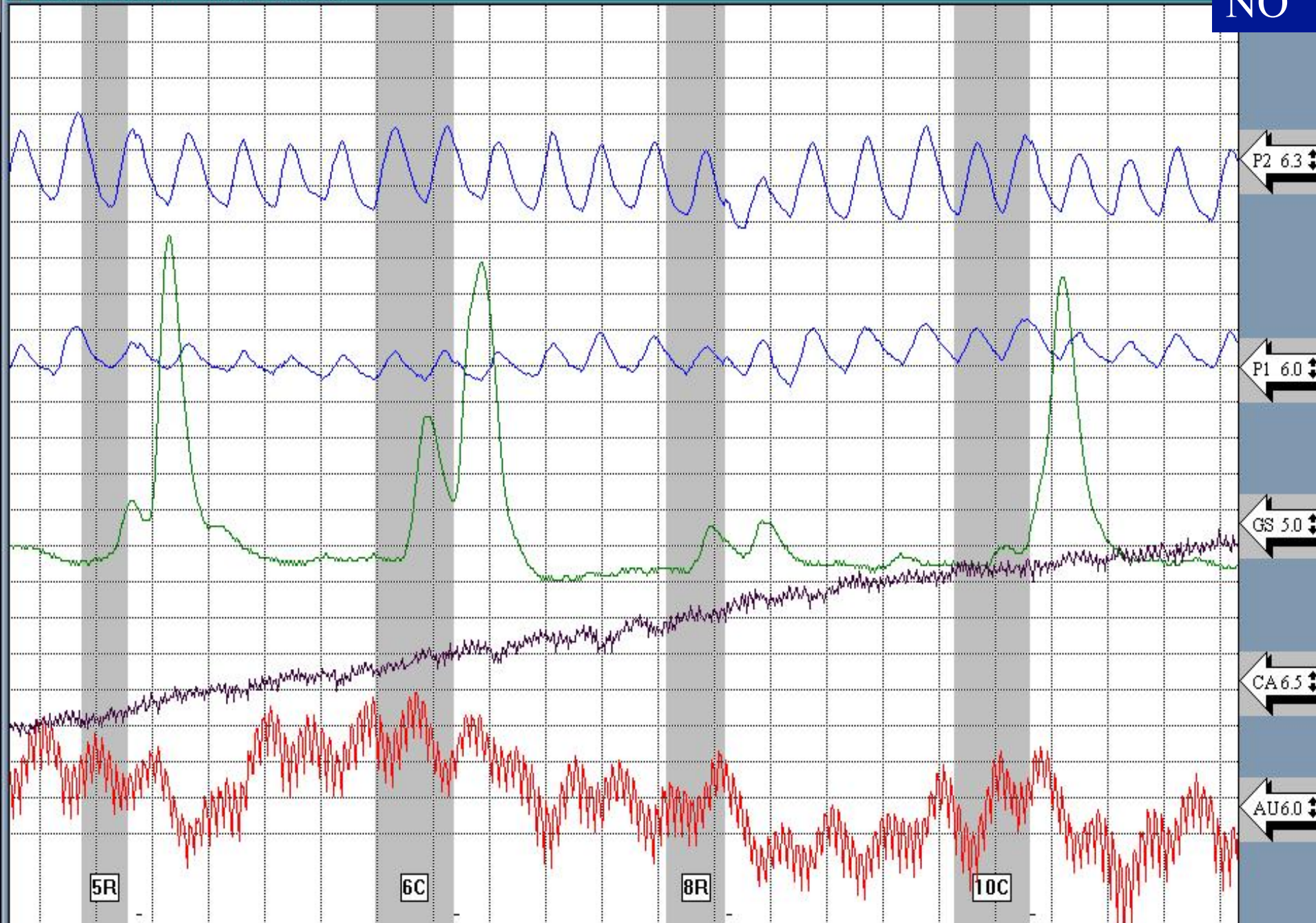
8R

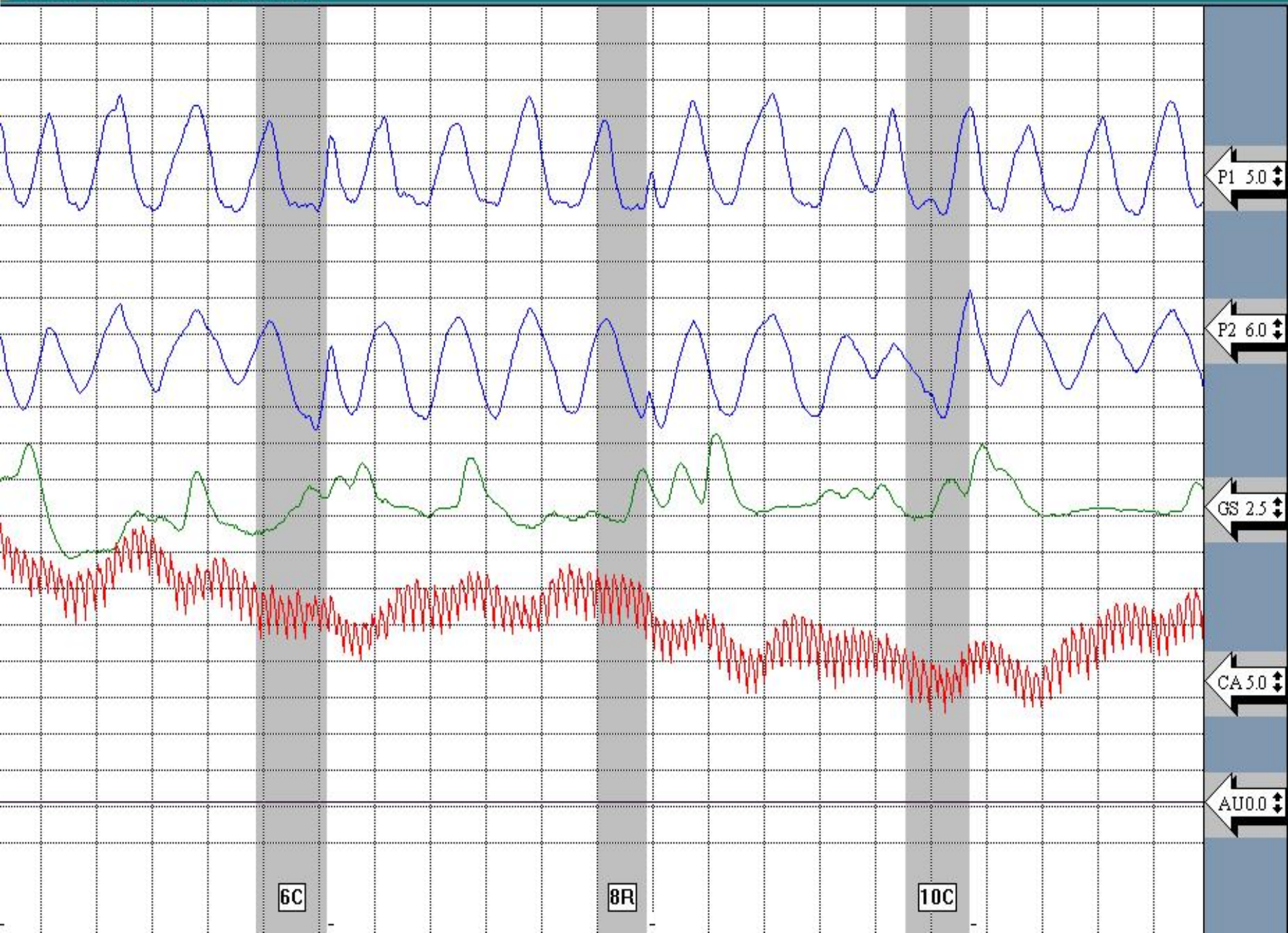
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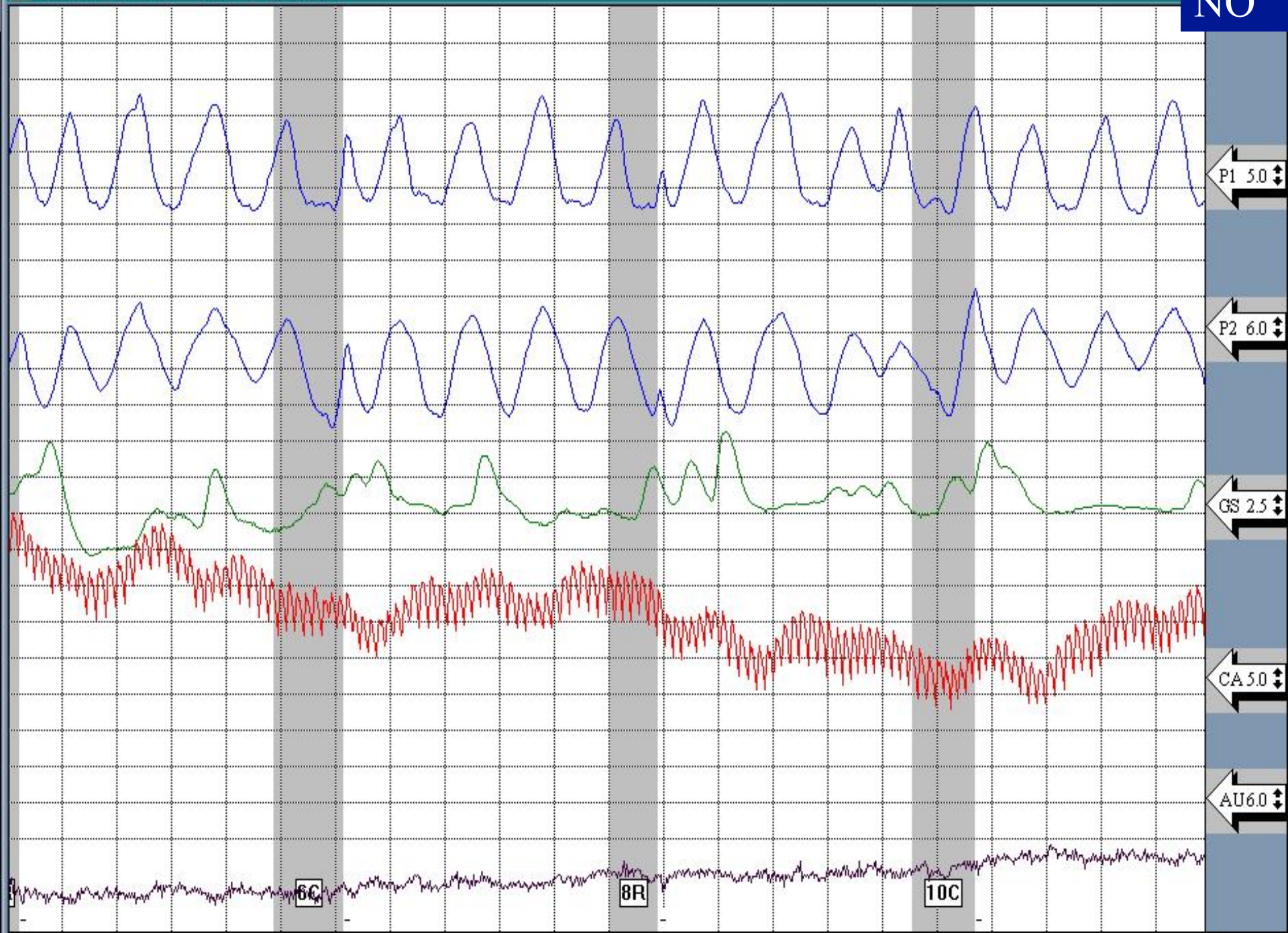


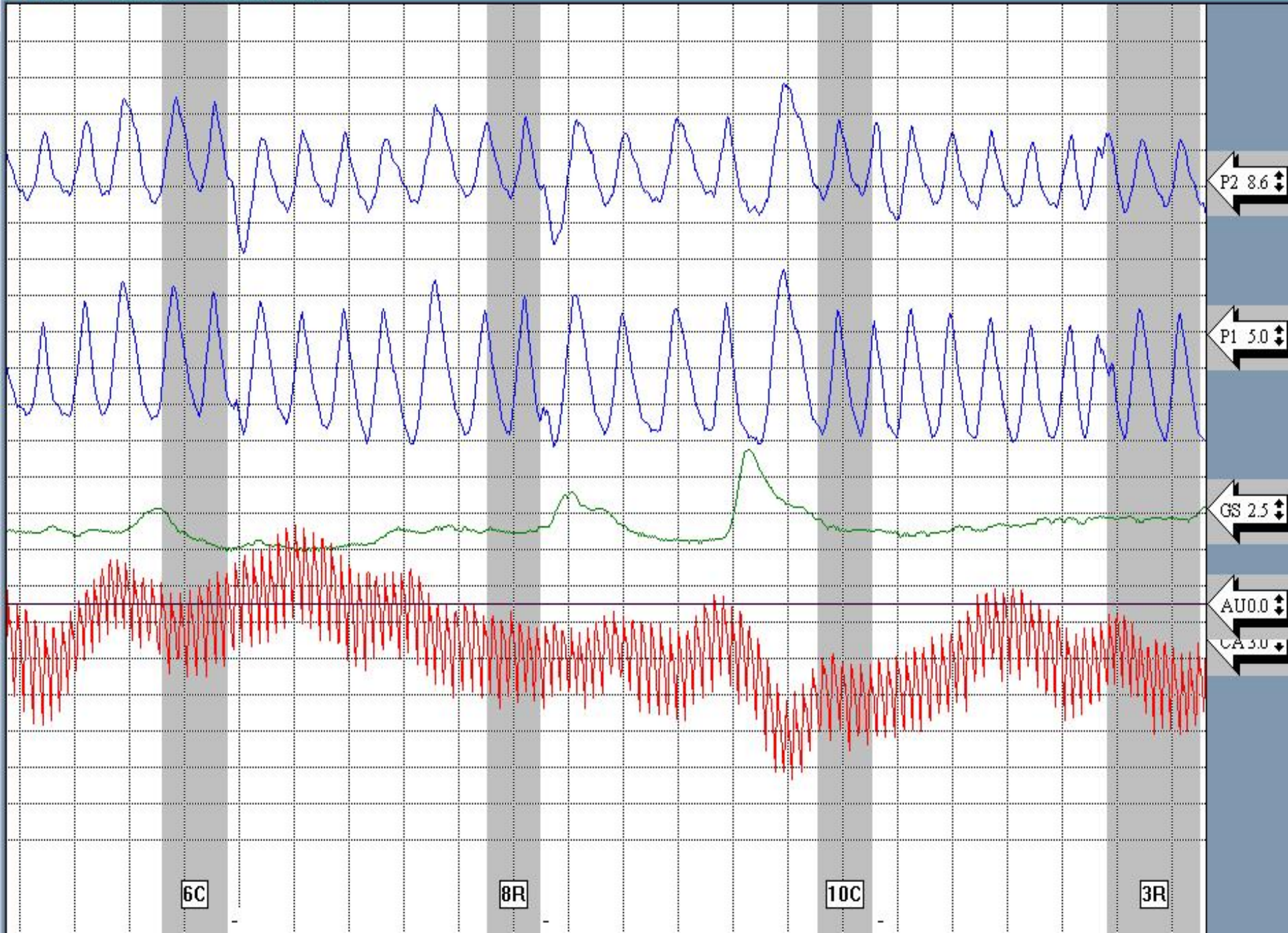


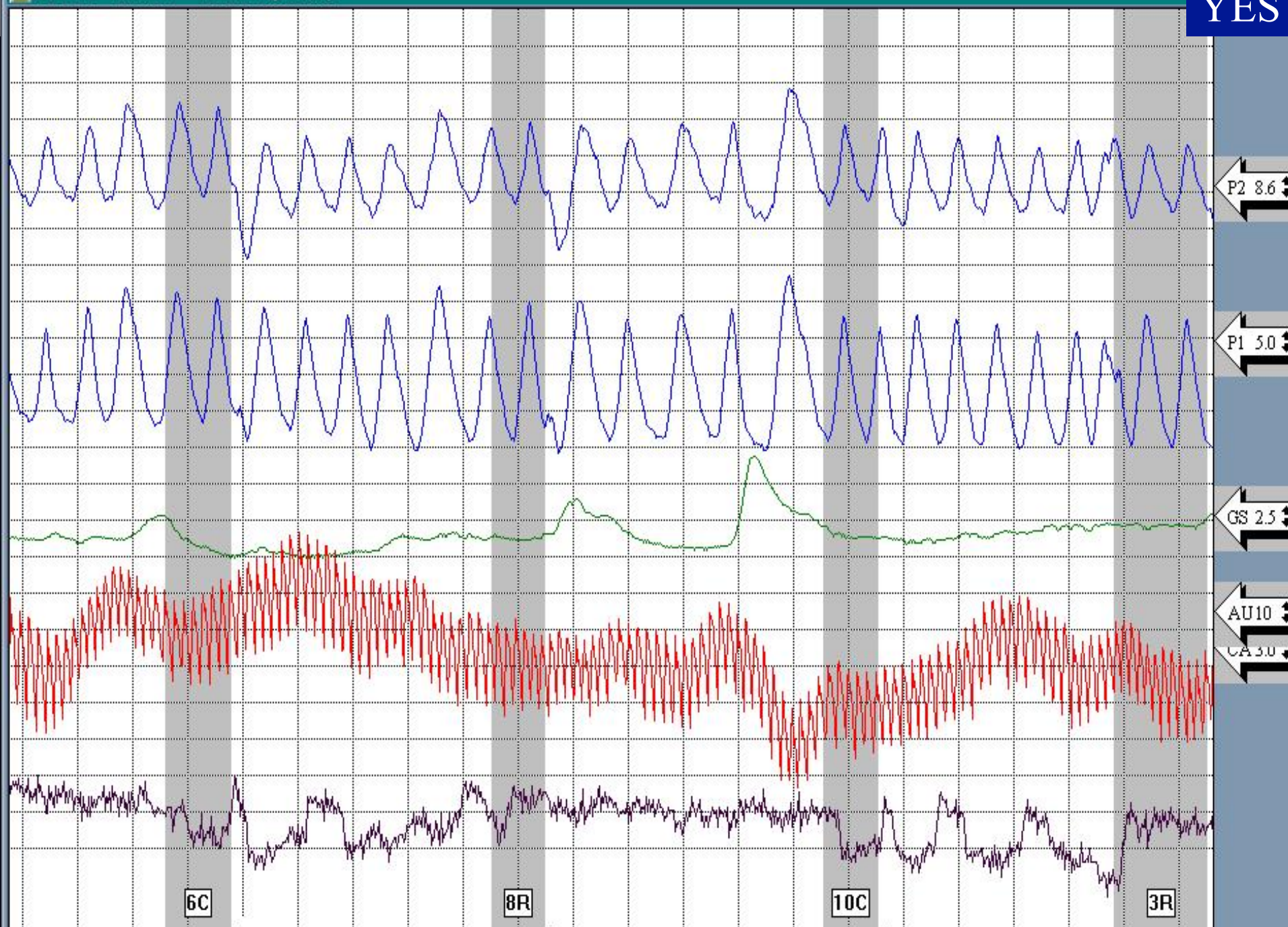












Grading Scale

- 10 Correct = A
- Less than 10 correct = buy a motion sensor

Physical CMs

Controlled breathing rate

Movement

- Muscle tensing
- Anal Sphincter muscle contraction
- Pressing toes against floor
- Pressing thighs against the chair
- Crossing eyes
- Squinting eyes
- Gritting teeth (watch for jaw movement)
- Pressing tongue against roof of mouth

Pain

- Biting tongue (watch for jaw movement)
- tack in shoe
- Press tongue against sharp object in mouth (watch for jaw movement)

Fatigue



Pharmaceutical CMs

- Prescribed drugs taken in excess such as anti-depressants or narcotics.
- Non-prescription drugs such as sleep aids and cold preparations.
- Illegal drugs taken prior to an examination.

Behavioral CMs

- Include an examinee's attempt to affect the interpretation of the data or manipulation of the examiner or the examination process (Eddie Haskall)
- Communication CM's – sending false verbal and non-verbal signals to the examiner
- ♣ A deliberate overflow of information given to the examiner

Insert Video of Eddie Haskell like
behavior

Impact of CMs on Innocent Examinees

- Innocent subjects who used countermeasures **produced more negative scores** ($M = -3.91$) than did Innocent subjects who did not attempt countermeasures ($M = 4.55$).

Law of Inequalities

- Whenever you see a reaction on a *comparison question* that's "too good to be true," it's probably artificial.
- Whenever you see a reaction on a *relevant question* that's "too good to be true," it's probably genuine.
- Therefore, *whenever* you see a reaction that's "too good to be true," probe!
 - Never tell them it's "too good to be true."
 - Don't show them the charts (don't give any biofeedback)
 - Never explain what aroused your suspicions.

Keys to Identifying CMs

- Atypical Physiology
- Specificity
- Frequency
- Clusters

What must be done to work?

- A CQT: The CM must reverse the differential reactivity between relevant and comparison questions so the comparison questions evoke stronger responses than the relevant questions.
- A GKT: The CM must alter the subject's physiological responding so that the Keys consistently produce smaller responses than at least one of the Foils.
- For both tests, the CM must be applied in a way that is not detectable by the examiner, through an observation of the subject or the physiological data.

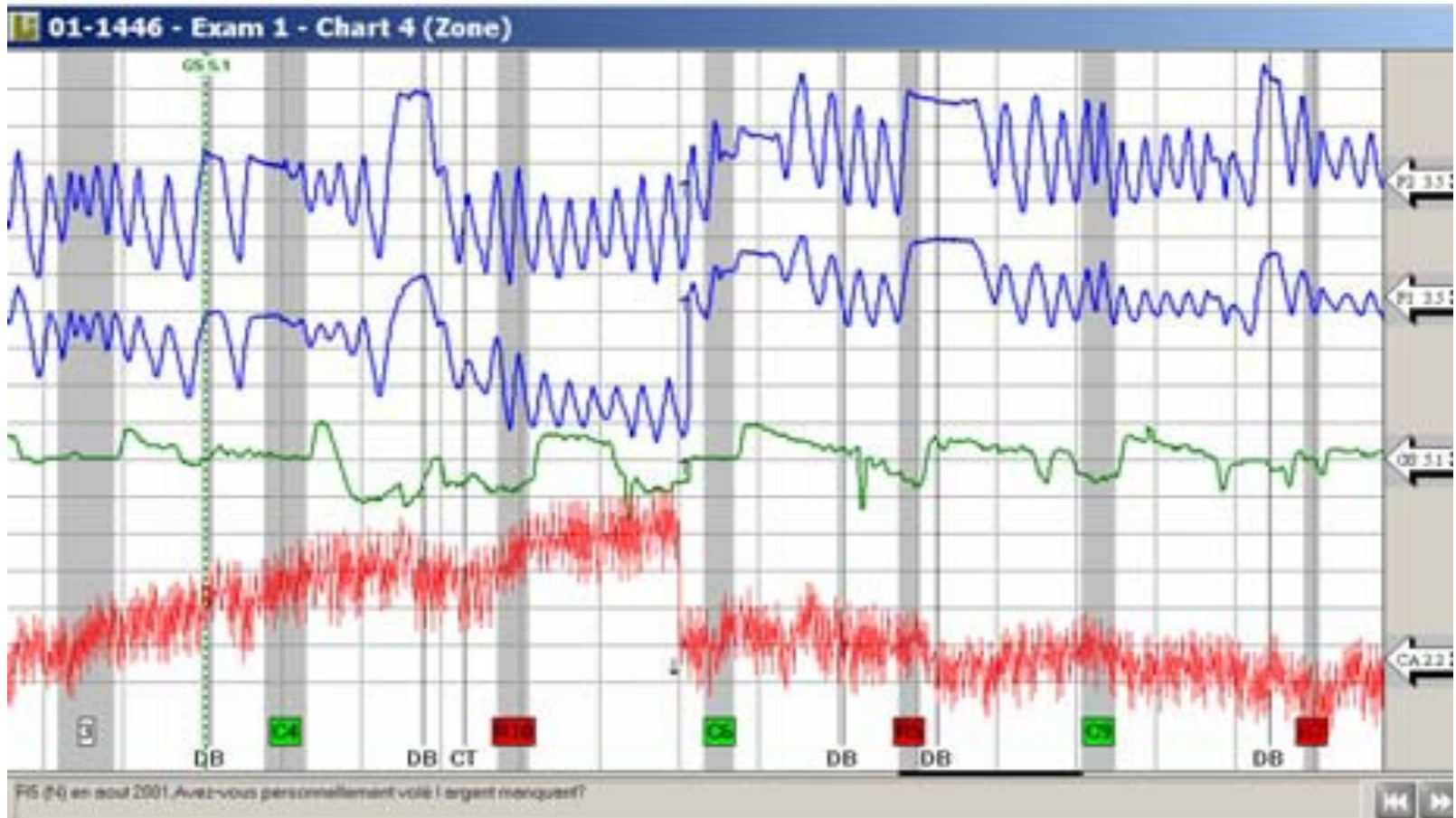
Pneumo Channel

- False Apnea
- Exaggerated Exhalation
- Hyperventilation
- Answer-like Distortions
- Loss of Parallelism
- New Permanent Baseline
- Bradypnea

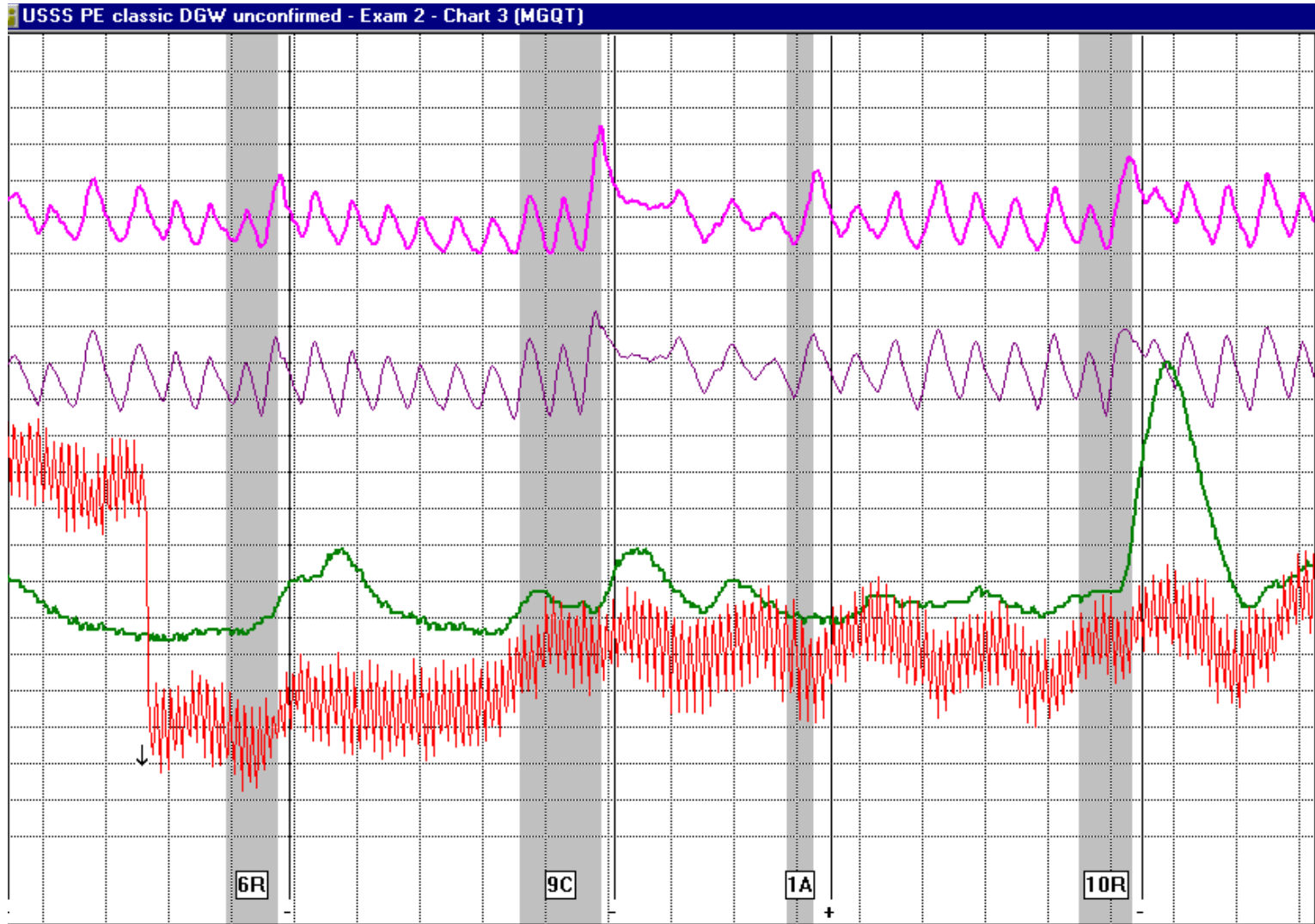
Hyperventilation

- Two types
 - More rapid breathing rate than is normal for the individual (usually more than 23 cycles per minute)
 - Significant amplitude increase

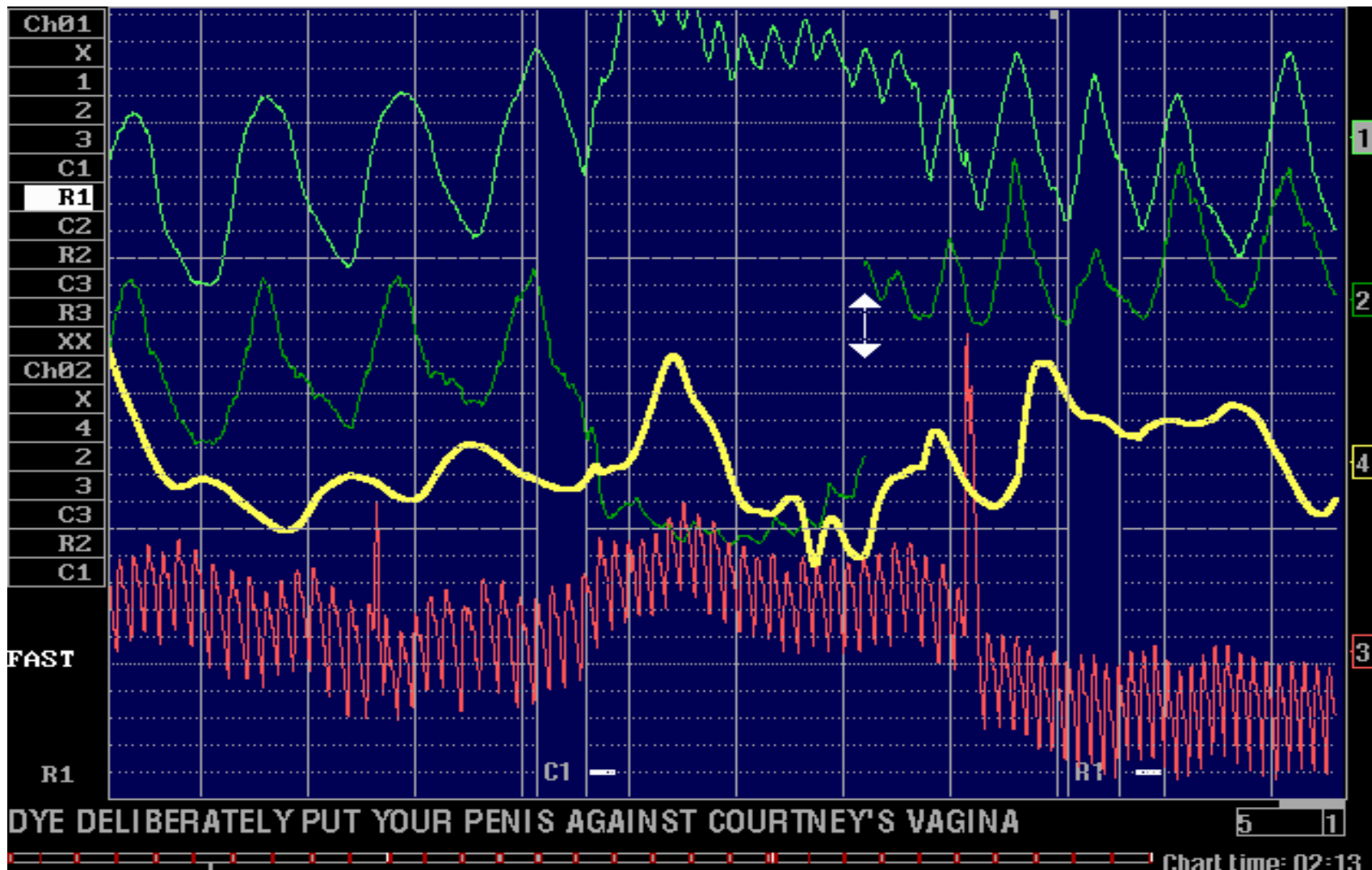
False Apnea– Holding

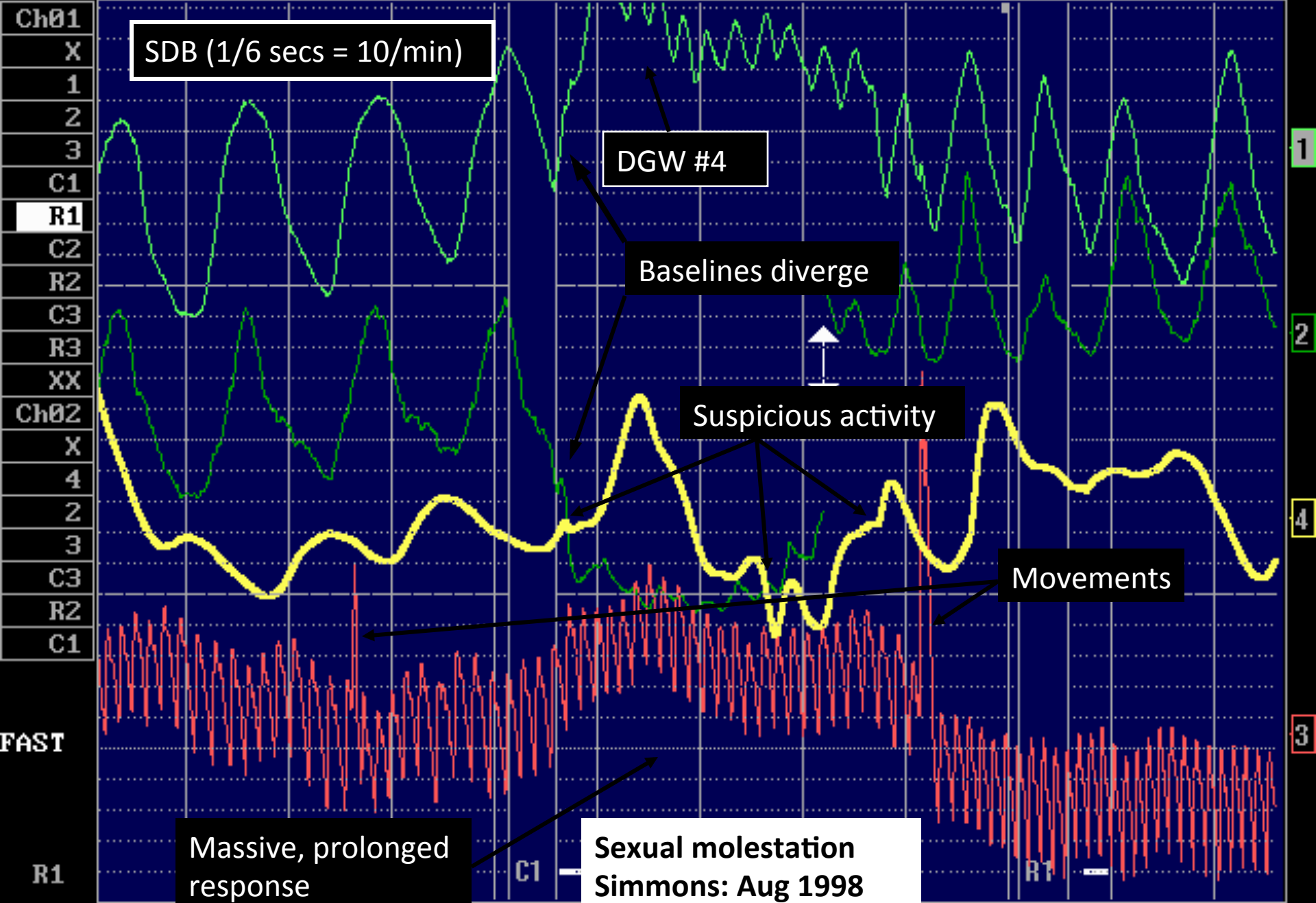


False Apnea - Holding



9C (N) Before applying w/the SS, DYE betray the confidence of someone who trusted you?





**Sexual molestation
Simmons: Aug 1998**

DYE DELIBERATELY PUT YOUR PENIS AGAINST COURTNEY'S VAGINA

Insert examples of each Pneumo

Answer-like Distortions

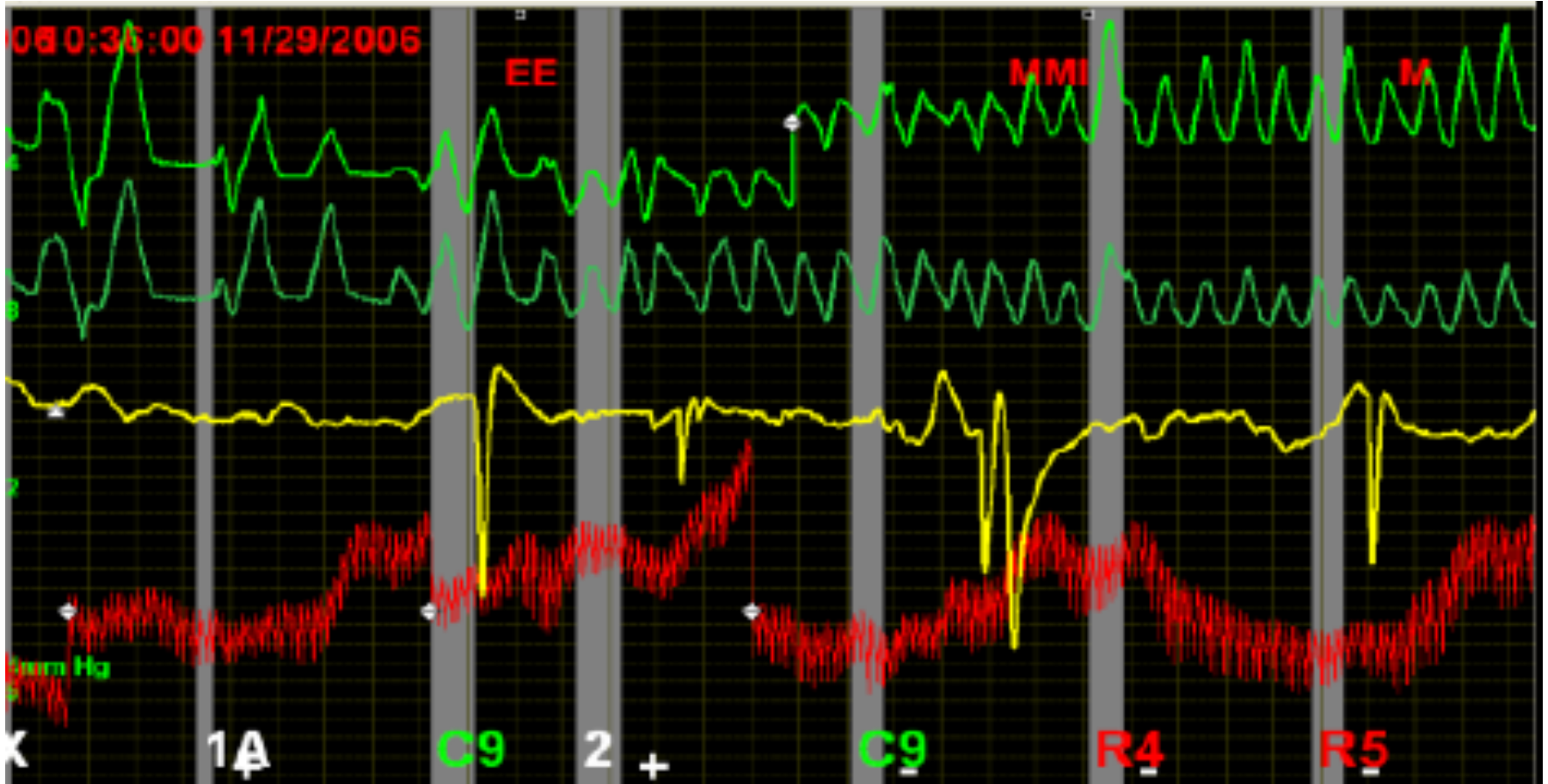
Lip Biting on Neutral Question



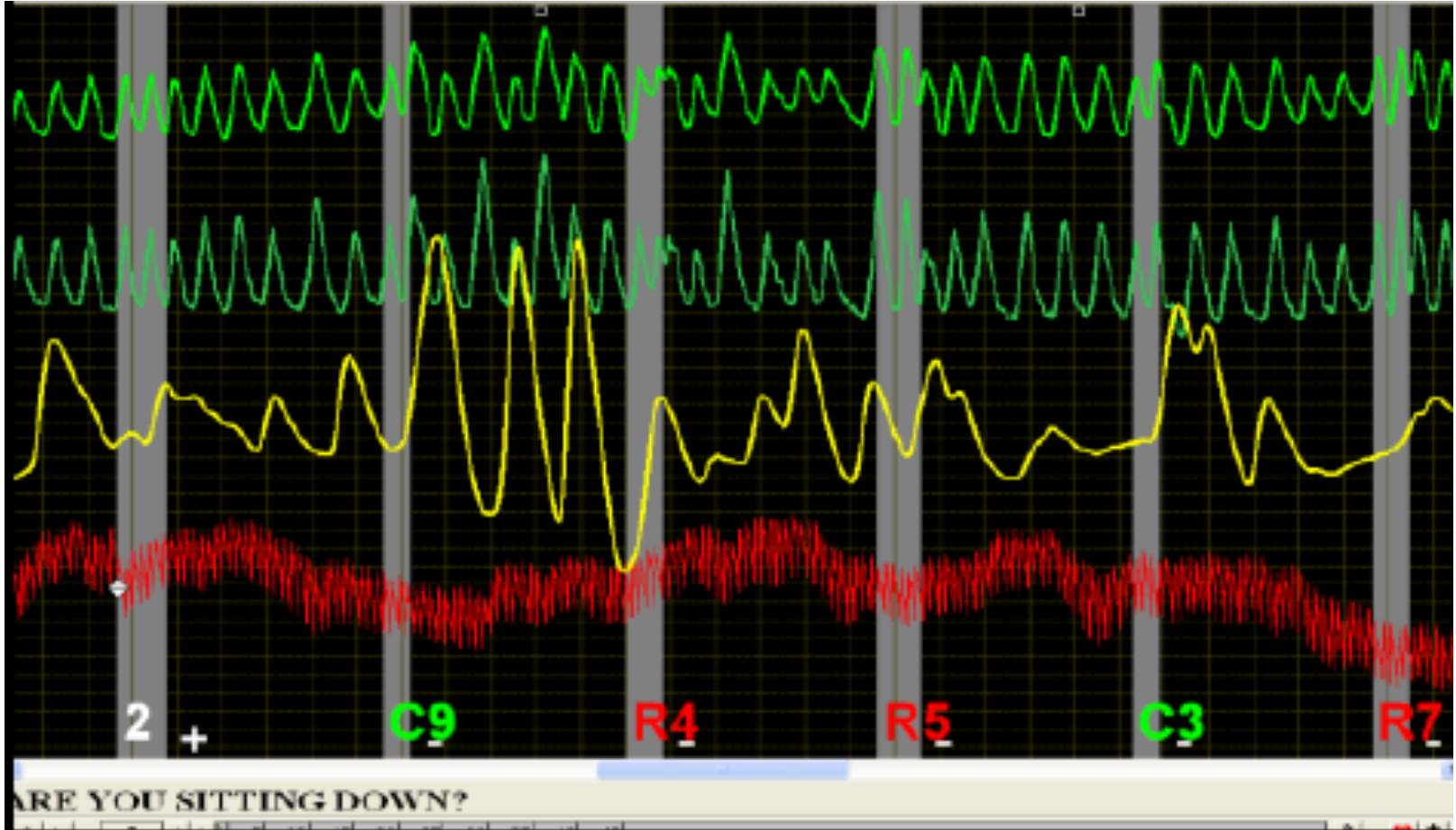
EDA Channel

- Labile EDR
- Inconsistent Latency
- Exaggerated
- Downward Spike

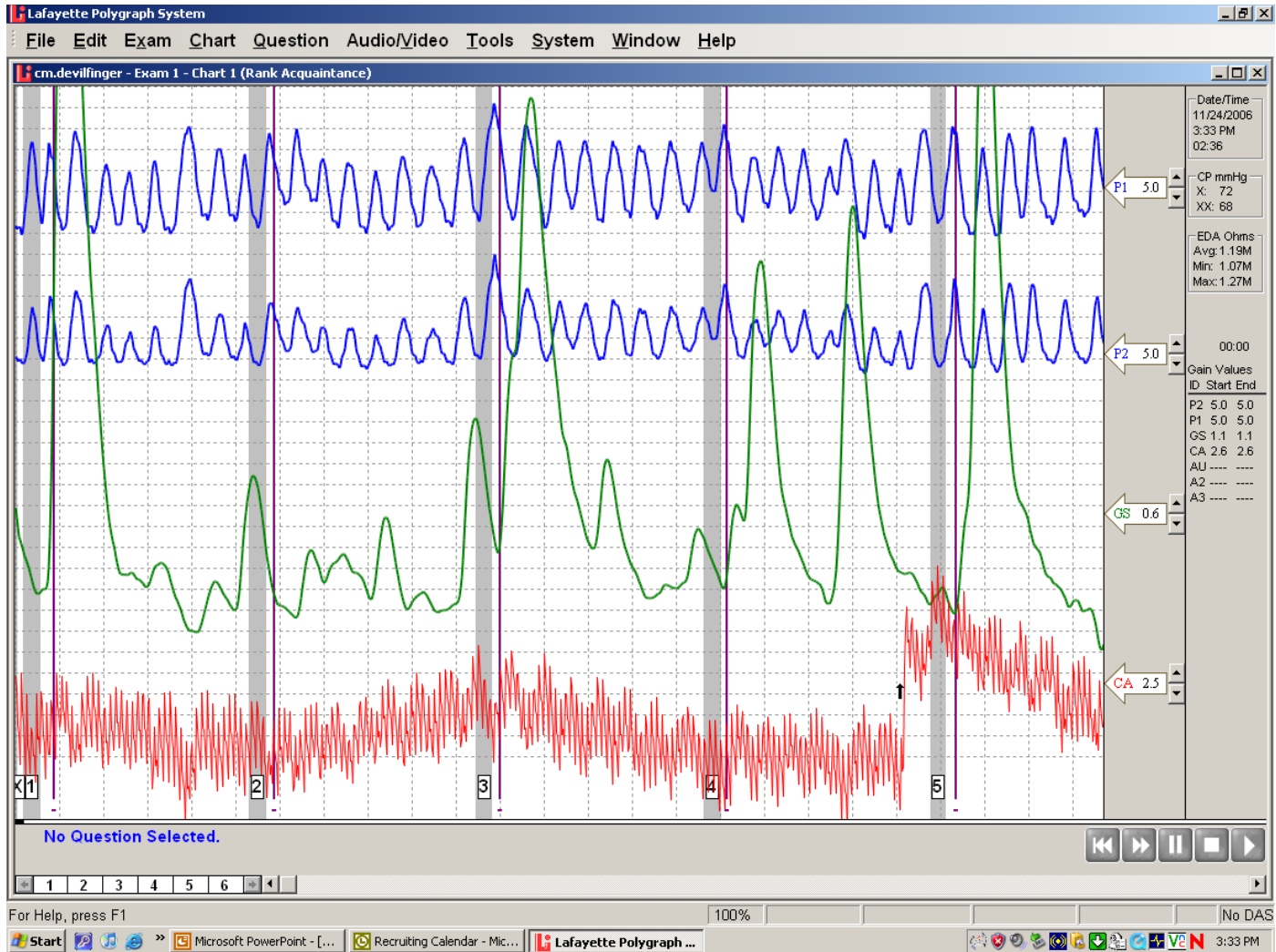
Downward Spike



Labile EDA



Labile EDA

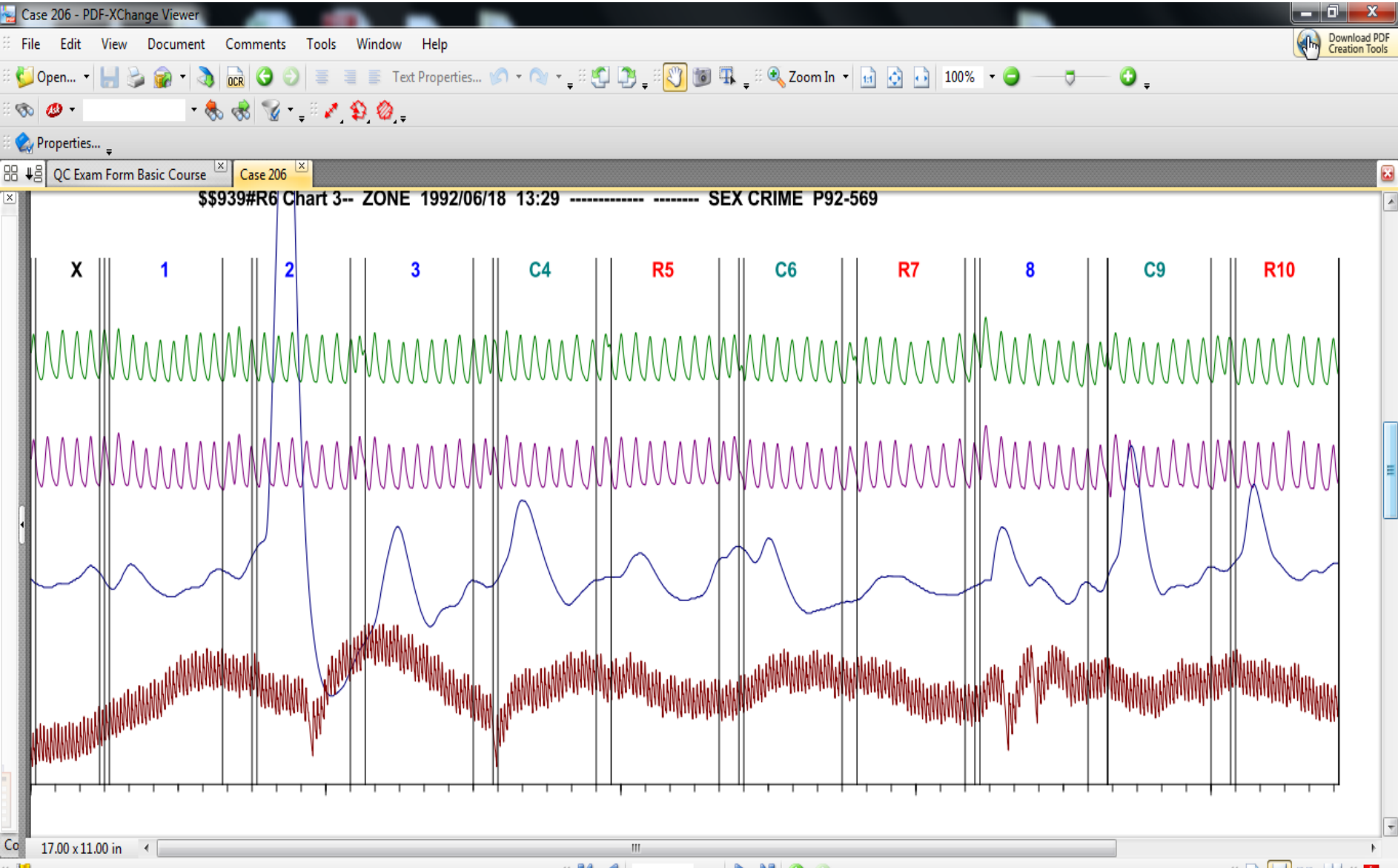


Insert Inconsistent Latency and Exaggerated EDA

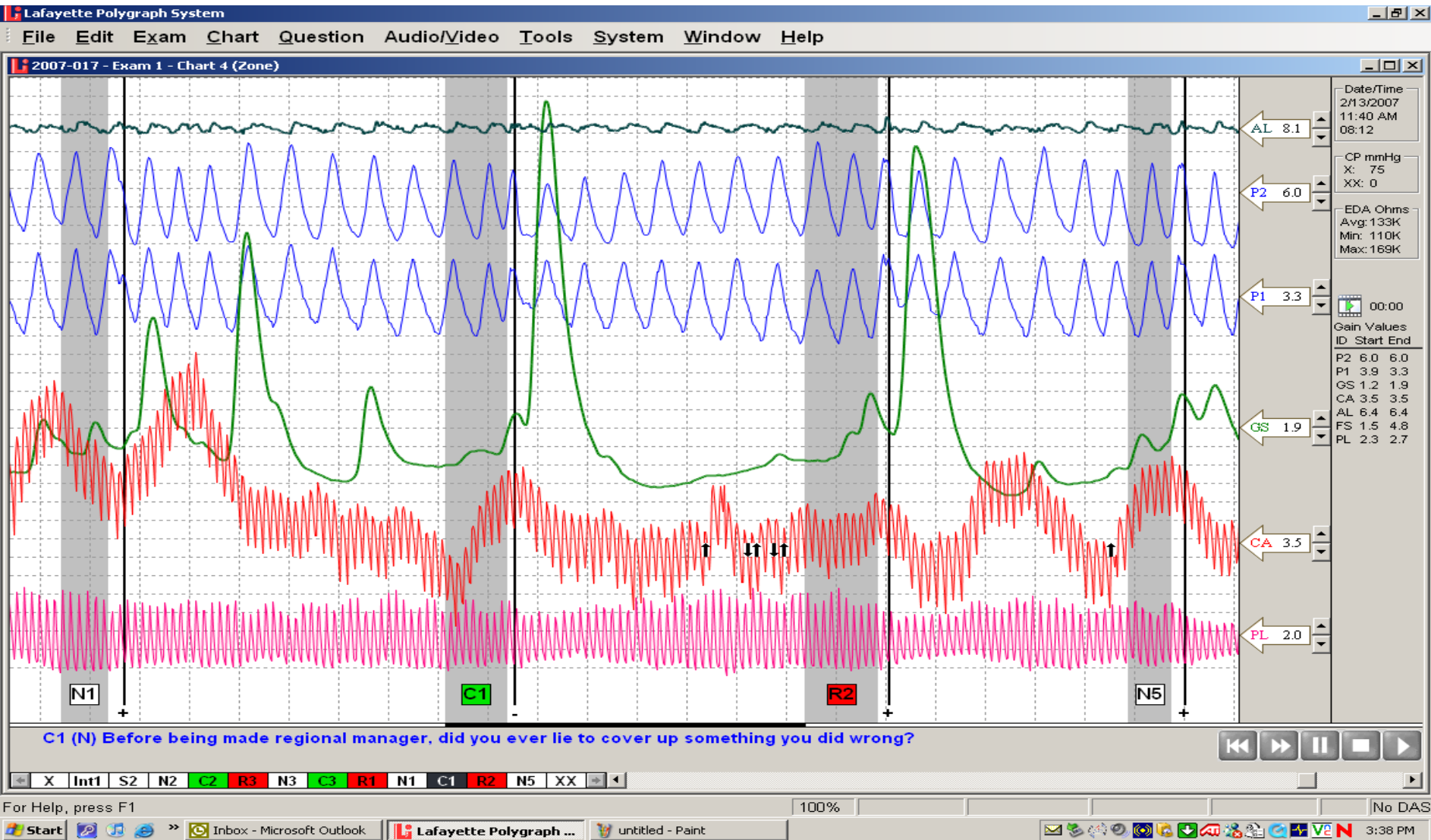
Cardio Channel

- Exaggerated Blood Pressure Increase
- Compound Blood Pressure Response
- Heart Rate (<60 or >100 bpm)
- Inconsistent Response Latency

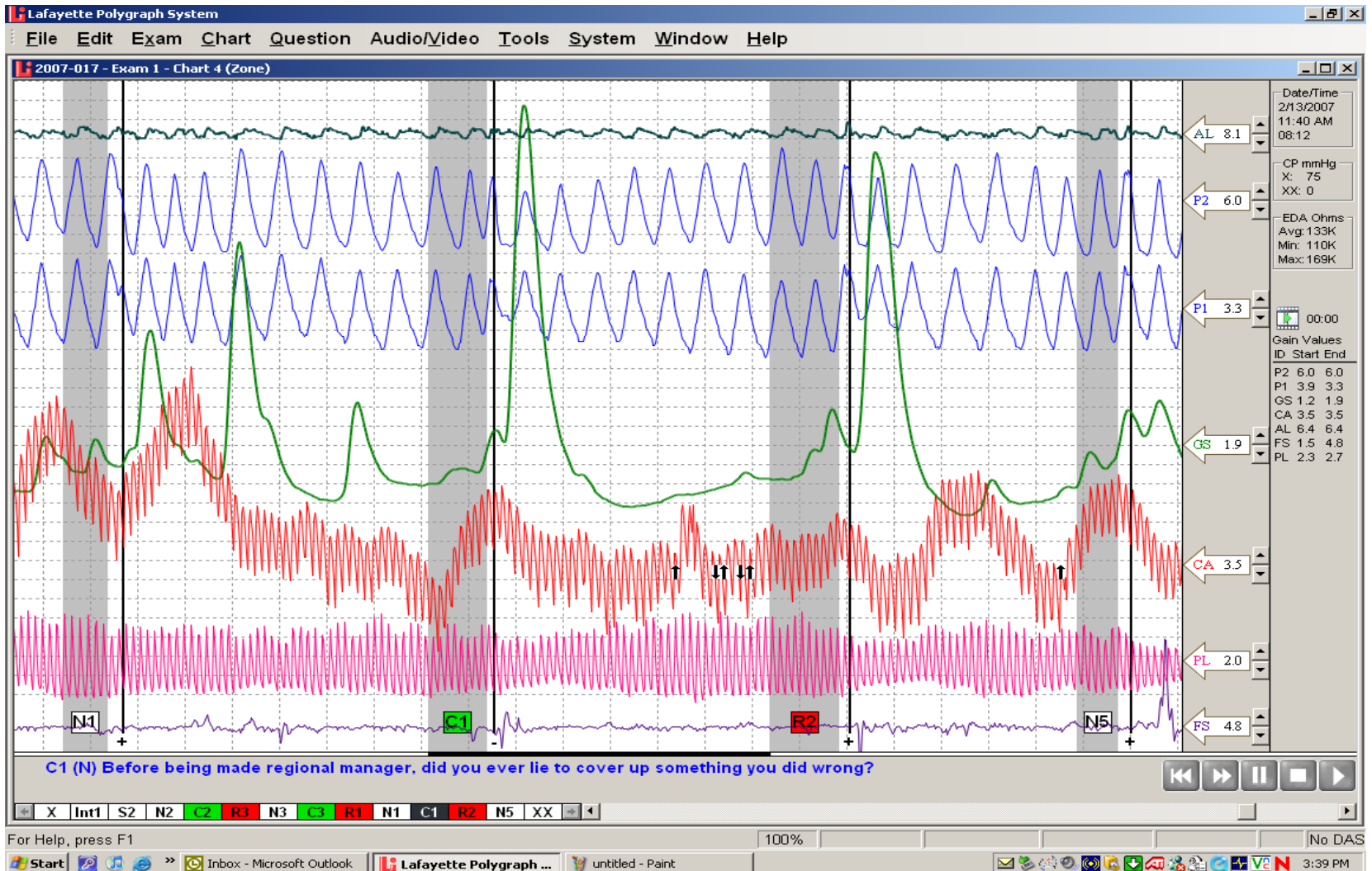
PVC's not CM's



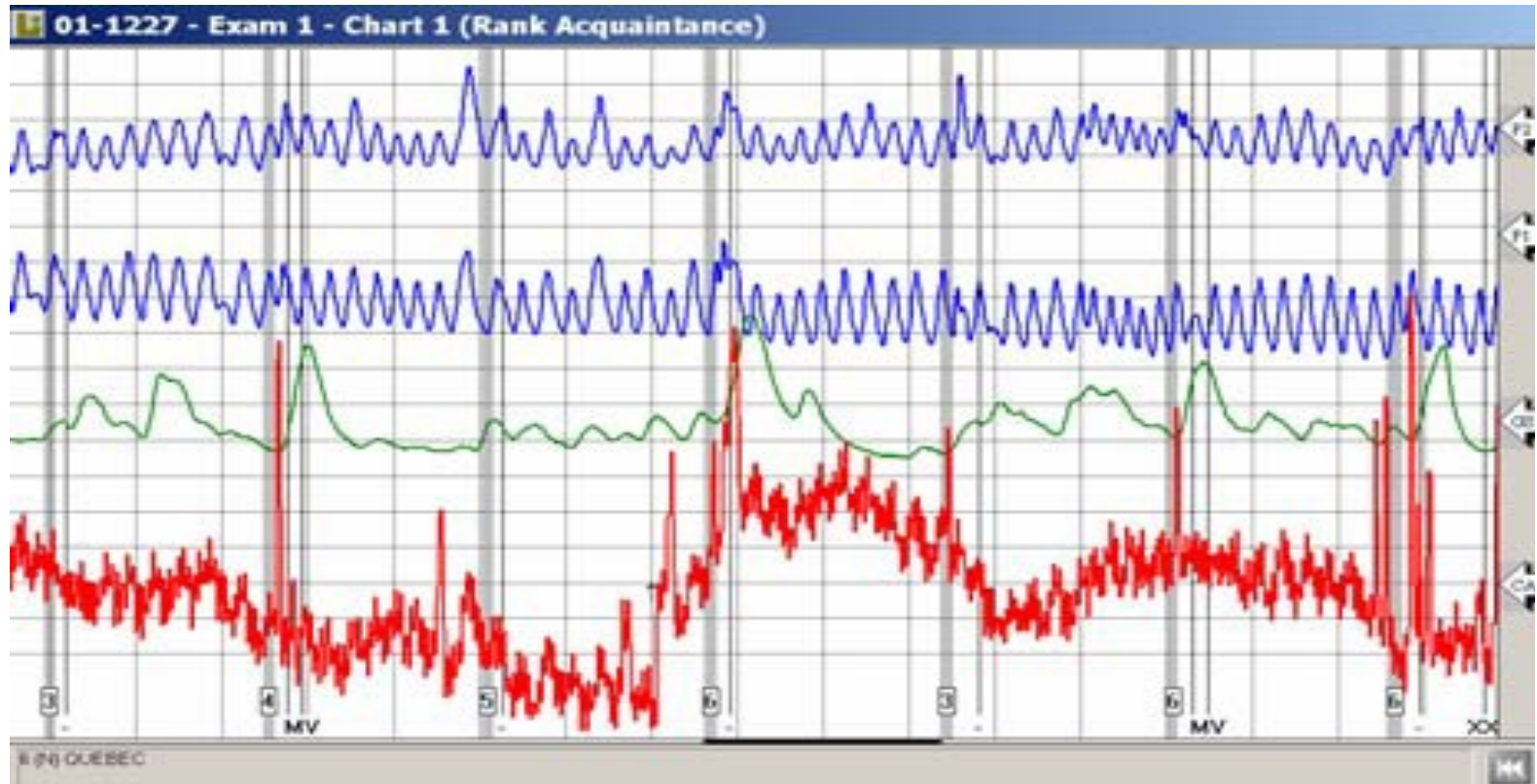
Rapid Rise Cardio



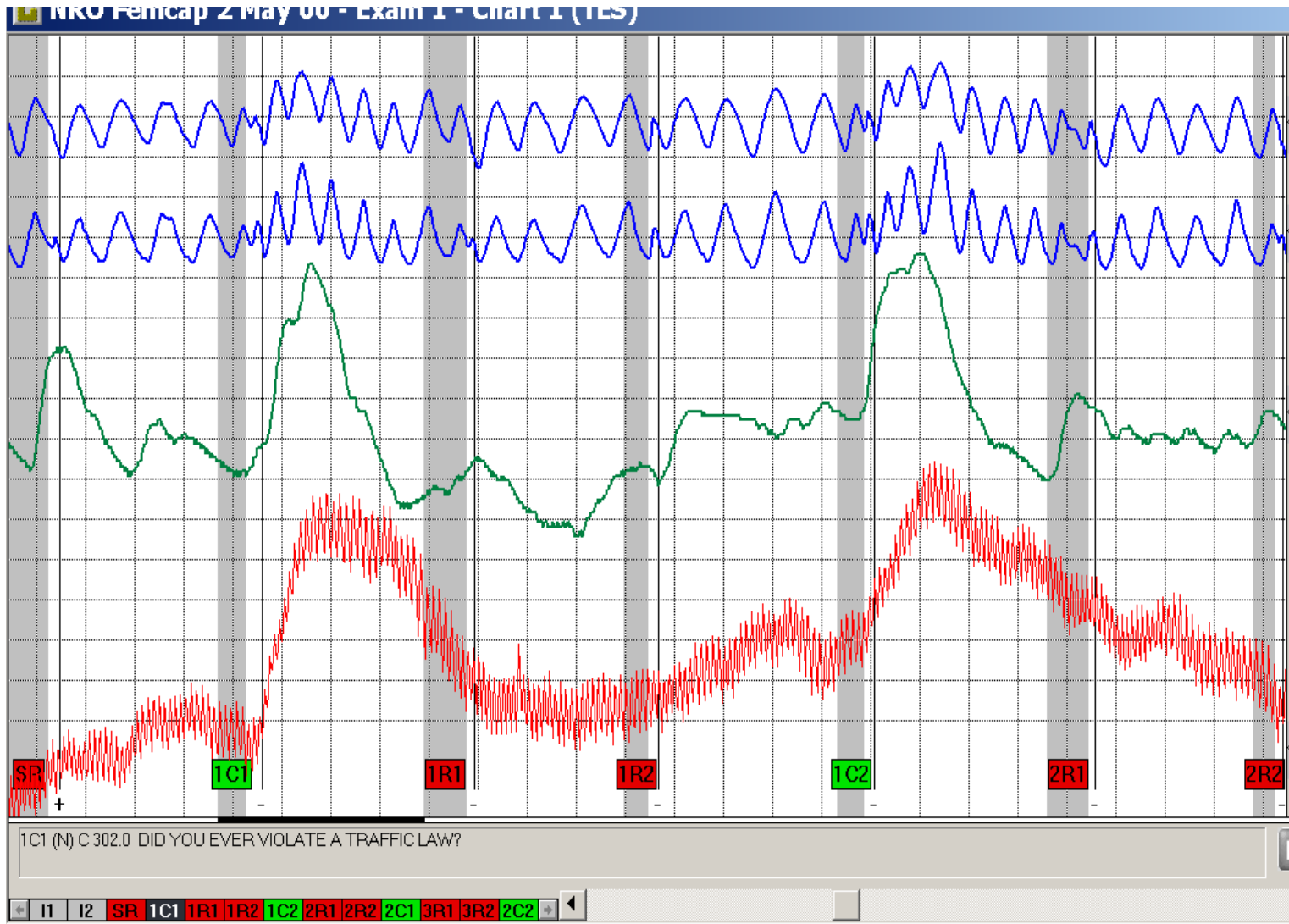
Same shot with Foot Sensor



Movement- cardio



Exaggerated Cardio Response



Insert Cardio examples

Other CM Considerations

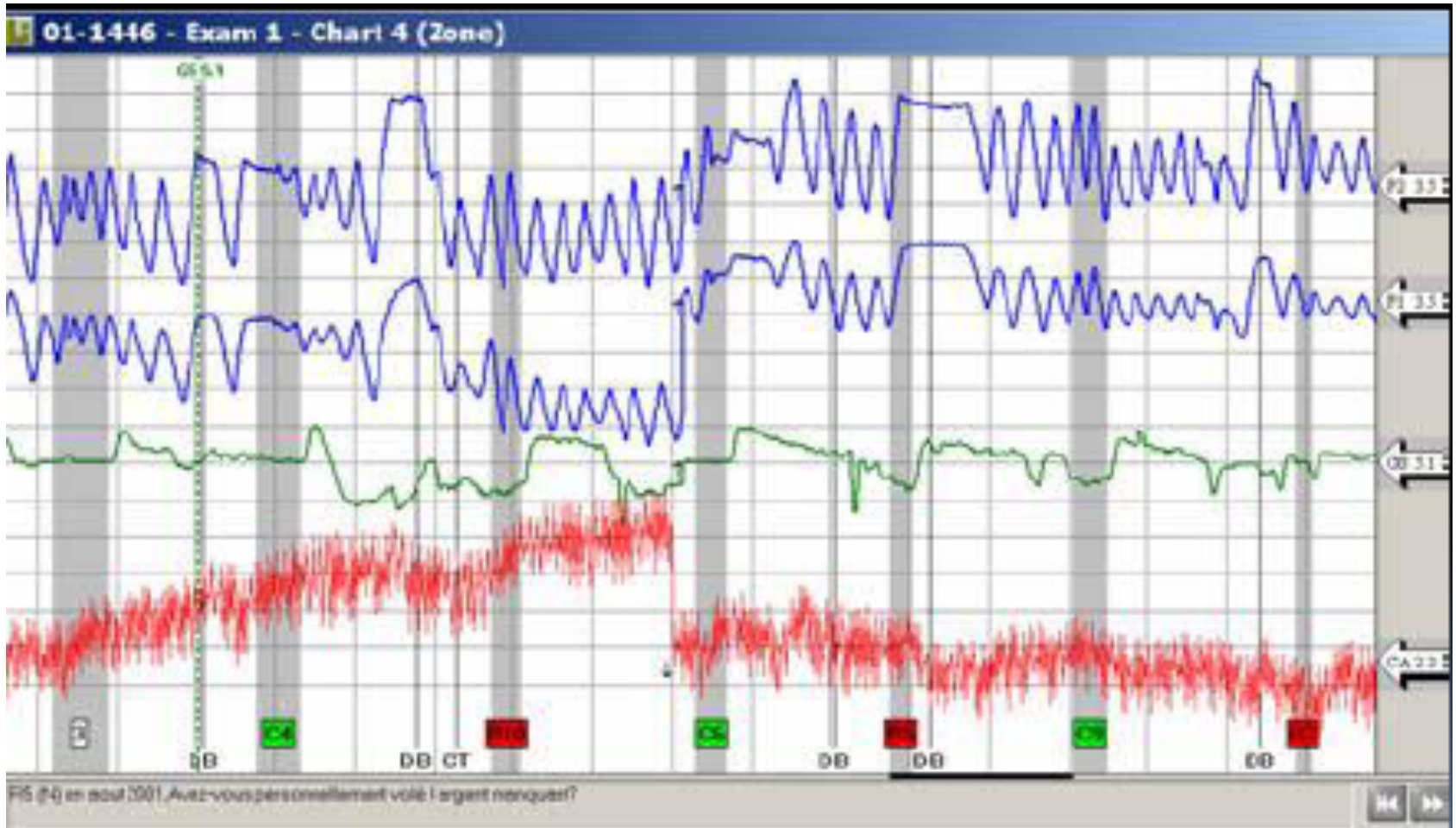
- Messy data (erratic tracing or over 100 bpm)
- Cookie Cutter responses
- Dramatic change in rate or morphology within or between charts
- Answer delays (late answers to CQs)

Examples of other CM considerations

False Apnea

- True Apnea (Blocking) is rare and occurs more often at RQs than at CQs
- High frequency of blocking at CQs may indicate CMs
- False Apnea (Holding) occurs at other than the bottom of the tracing.
- False Apnea often has immediate recovery.

False Apnea - Holding



True Apnea

- True Apnea is infrequent.
- More often at RQs than at CQs
- High frequency at CQs may indicate CMs

Exaggerated Exhalation Cycle

- Similar to false apnea
- One cycle of drawn-out exhalation
- Often falling below baseline
- Immediately followed by a single deep breath

Hyperventilation

- 90% breathe at 10 – 23 bpm
- 20% faster is an indication
- Significant amplitude increase indicative of hyperventilation

Misplaced or Multiple Answer-like Distortions

- On what side of the respiratory cycle do we typically see answers?
- How long does it take to say “yes” or “no”
- Accurate markings are critical
- Look for answer delays
- Look for sharp increases in the cardio

Loss of Parallelism

- Diverging or converging
- Slight or exaggerated
- Usually accompanied by other signatures

New Permanent Baseline

- The baseline can be up or down
- Normally at comparison question
- Can be dramatic or subtle

Bradypnea

- Resting respiration seldom below 10 bpm
- Rare exceptions

Labile EDR

- Excessive electrodermal activity
- Often in constant motion
- Responses frequently found well after points of answer

Inconsistent EDR Latency

- Stimulus onset to response onset
- What is atypical?

Exaggerated EDR

- Globally out of proportion
- Frequency

Downward Spike of EDR

- EDR does not have parasympathetic innervations
- Look for patterns

Exaggerated Blood Pressure Increase

- Rapid rise and/or prolonged response duration
- Common at RQs for DI examinees
- Not common at CQs
- Virtually non-existent at Neutral Questions

Secondary Blood Pressure Response

- Sharp rise in cardio followed by a secondary rise
- “Compound cardio”

Tachycardia & Bradycardia

- Tonic pulse rate in excess of 100 bpm strong likelihood of either deception or CMs
- Less than 60 bpm

Inconsistent Cardio Response Latency

- Consistent with EDR latency
- Contrast latencies of CQs with other questions

What's #1 in a Google Search?

- Wikipedia
- Antipolygraph.org
- HowStuffWorks.com
- Police-Test.net
- SkepDic.com
- Polygraph.com
- WikiHow.com
- PassaPolygraph.com

Pre-test Statements

“ Lots of info out there regarding polygraph. I always like to address Any concerns or misinformation. Many people try to prepare For their exam. What research have you done?”

“If you do anything to intentionally manipulate the results of this examination, then it may negatively affect your process.”

“If someone tries to manipulate the data, it will make me think they have something to hide.”

“Doing things to distort test, can cause inconclusive results. Promise me you won't do anything to distort the test.”

Your Agency's CM Policy

- Know what your agency will do to both suspected and confirmed CMs.

Anti-countermeasure and Counter-Countermeasures

- ACM = done prior to the intent to deter CMs
- CCM = what is done to negate the effects of CMs already being done.

Pretest ACM

- “Doing things to distort the test can cause inconclusive results. Promise me you won’t do anything to distort the test.”
- Designed to behaviorally differentiate between the guilty and innocent subjects
 - Preclude innocent from using

ACM Pretest

- Introduce neutral questions as CQs
- Use event or category bars, or use time bar at end of CQs.
 - *Prior to working at XYZ Company, have you ever lied to a co-worker?*
 - *Have you lied to a family member before this year?*
- Time-bar some (not all) neutral questions
 - *Before moving to Florida, did you possess a drivers license?*
 - *Prior to 2010, did you ever drink water?*
- Use movement sensor and sell its use

I1g-Prior to 2005, did you attend high school?



Who attempts CMs?

According to a 2001 study on CMs (Honts, Amato and Gordon)

- ***89.6% of Deceptive subjects***
- ***45.8% of Non-deceptive subjects***

ACM/CCM

- Watch the subject!
 - Arrange room so you can observe the chin, fingers, abdomen, maybe even toes
 - Focus on Subject, especially during question onset
 - Ensure Subject knows you are watching

CCMs

- Only use this if you are 100% sure they did CMs on the Key in the ACQT.
 - If you see Subject using CMs on Key in ACQT, tell them after ACQT that the Key didn't respond as strongly as you expected, but it will work.

CCMs

- Intersperse Neutral Questions
 - Repeat Neutral Questions
 - Hint: Utah Zone Question Sequence is not mentioned in Maschke's manual!
- Provide direction and control to Subject
 - “Look up”
 - “Don't move around”

More CCMs

- Run a separate series with CM questions
 - Ex. Did you do anything to manipulate the test today?
 - Do NOT just throw in CM questions in a regular format! Make it a separate series! Why? Because then you are introducing another issue being tested! More issues = less accuracy.
- Silent Answer Test (answer distortions)
- Yes Test
- Repeat Last Word

Silent Answer Test

- “John, I’m going to conduct another test...”
 - “It is a little different”
 - “Instead of answering aloud, listen, answer truthfully...but silently.
 - You can instruct them to slightly (nose moves no more than a $\frac{1}{4}$ ”) nod to make sure they are paying attention.

Yes Test

- Helpful in cases wherein Subject has tried to evade detection by distorting tracings
- Instruct Subject to answer all questions “yes”
- With CQT, advisable to drop CQs
- No DI/NDI decision from this data!

Repeat Last Word

- Used when CMs are suspected
- Examinee is instructed to repeat the last word of the question and then answer with “yes” or “no”

Honts, et al (2009)

- In a study using both probable-lie and directed-lie examinations, Honts et al (2009) debriefed participants about their spontaneous use of countermeasures.

Honts et al (2009)

Overall 48% reported attempting a countermeasure.

- Probable-lie 50% attempted
- Directed-lie 46% attempted

Of the Guilty 78% attempted

- Probable-lie 83% attempted
- Directed-lie 72% attempted ($p = .095$)

Of the Innocent 18% attempted ($p > .001$)

- Probable-lie 15% attempted
- Directed-lie 20% attempted

Sequence

1. Listen for “buzz words”
 - “control question,” “comparison question,” “LEPET”
 - Refer to it in post-test
2. Obtain admission to a conduct
 - “I can see that you were doing some things during the test that you weren’t supposed to do.”
 - Ask what else?

Sequence

- 3. Acquire Subject's understanding as to why he did it.
- 4. Have Subject relate where and when the activity was employed (on which questions).
- 5. Ask when he decided to employ the tactic.
- 6. Get the why

Post-test CM Actions

- When you know CMs were used
 - Interrogate
- When you only suspect CMs
 - Proceed with caution
 - Provide non-threatening reminder
 - Collect more data
 - Seek a second opinion
 - Probe

Questions to Cover

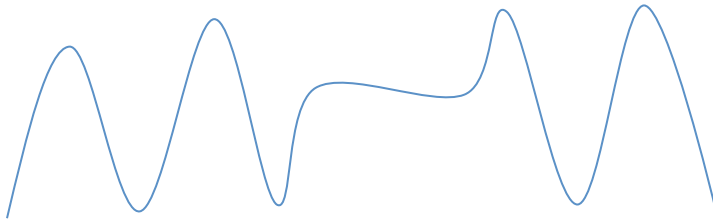
- Who did you get it from?
 - Doug Williams
 - Instructor at the academy
 - Friend
- What did you do exactly?
- What did you think was going to happen as a result of doing this?
- Where did you learn about it?
- When did you decide to use it?
- When during the exam did you do this?
- How did you do it?
- Why did you do it?

CM Themes

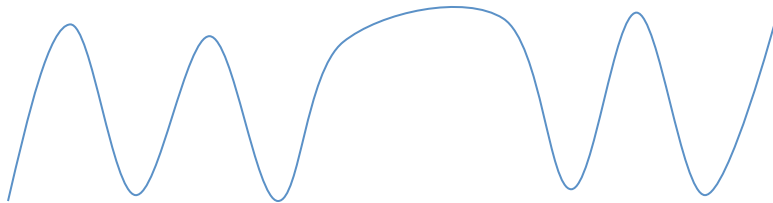
- “You just got bad information!”
- “You were afraid of a false positive”
- “You were only trying to be helpful”
- “You like to experiment with things”
- “You are curious about what would happen”

Apnea

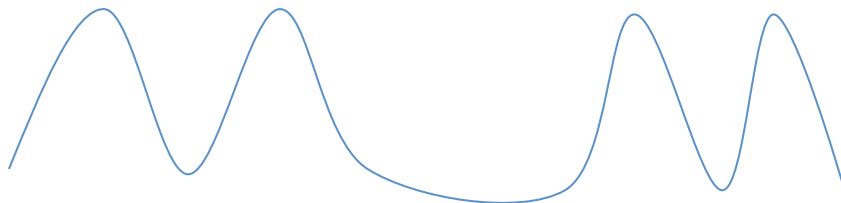
- Is this diagnostic Apnea? No!



- Is this diagnostic Apnea? No!



- Is this diagnostic Apnea? Normally, yes!



Insert Confirmed CM charts

- With and without motion sensor tracing showing

How to Report CM Results

- When a person used CMs, even if on only one chart, *never* call that person NDI.
- DON'T use the word "Countermeasures"

How to report Suspected CMs

- "The polygraph tracings are not what are typically seen in polygraph examinations. The tracings are consistent with what I have normally seen in confirmed cases where intentional manipulation has occurred."

Suggestions

- Avoid using time-barred CQs
- If you decide to run consecutive comparison questions (to confirm suspected CMs), do so after running your protocol number of charts. In other words, run an extra chart once you have already run the total number of charts you need for a conclusive examination.
- If you are not comfortable with the chart data (i.e. suspect CMs), it is permissible to interrogate on NDI, DI, or NO conclusions.

Suggestions

- Run a minimum of 15 seconds of data before the X on each chart.
- “Don’t try to make anything happen, don’t try to prevent anything from happening, just be still during the examination.”
- If you suspect CMs, run a “Repeat the last word, and then answer” chart.
- Look for delayed answers!
- Time-bar ONE Irrelevant Question. Do NOT time-bar all Irrelevant Questions! Place it right before a middle or later CQ in the sequence!

Suggestions

- Keep an eye on your Subject
- Get more than 2 cycles of homeostasis before beginning your next question.

Exercise

Create the following question template:

X

1. Are the lights on?
2. Bite your tongue
3. Squeeze your sphincter
4. Scream in your head
5. Clinch your teeth
6. Curl your toes
7. Cross your eyes
8. Think exciting thoughts
9. Flex a muscle
10. Control your breathing
11. Are you now sitting down?

XX