



Los Angeles Police Department Polygraph Unit

Examiner Reference Guide

LAW ENFORCEMENT SENSITIVE

Department Core Values

The Core Values of the Los Angeles Police Department are intended to guide and inspire us in all we say and do. Making sure that our values become part of our day-to-day work life is our mandate, and they help to ensure that our personal and professional behavior can be a model for all to follow.

- Service to Our Communities
- Reverence for the Law
- Commitment to Leadership
- Integrity in All We Say and Do
- Respect for People
- Quality Through Continuous Improvement

LAPD Polygraph Unit - Mission Statement

- Assist the Department in achieving its goals and support the Department's mission.
- Provide professional services in the field of forensic psychophysiology using standardized polygraph techniques.
- Perform duties with the highest degree of professionalism, ethical standards, and integrity.
- Strive for the truth while maintaining the dignity of all those we serve.

Table of Contents

DIAGNOSTIC FEATURES

Pneumo Tracings	4
EDA & Cardio Tracings.....	5

RESPONSE ONSET WINDOW

Pneumo, EDA & Cardio Tracings	6
-------------------------------------	---

SEVEN-POSITION SCALE – ASSIGNING VALUES 8

FORMATS – QUESTION SEQUENCES

AFMGQT – Versions 1 and 2 (2, 3 and 4 Relevant Question series)	9
You Phase Zone, ZCT, LEPET, Acquaintance Test	10

CUT-OFF SCORES

You Phase Zone	11
Zone Comparison Test	12
AFMGQT – Versions 1 and 2	13

QUESTION ORDER OF REVIEW

Order of Review – all formats	14
-------------------------------------	----

EXCEPTIONS TO HOMEOSTASIS (EDA TRACINGS)

Exception #1	15
Exception #2	16
Exception #3	16
Something vs. Nothing Principle	17

EXCEPTIONS TO HOMEOSTASIS (CARDIOVASCULAR TRACINGS)

Exception #1	18
Exception #2	19
Exception #3	20
No Complexity in Cardiovascular Responses	21
Cardio Tracings: When smaller response is less than 1 chart division	22

UNIFORM CHART MARKINGS 23

DIAGNOSTIC FEATURES

Pneumos

Respiratory Line Length (RLL) - 5 diagnostic features

Apnea – blocking

Apnea must occur at or near the bottom of the respiration cycle.

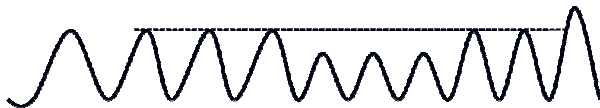
Apnea should not drop significantly below baseline

(no exaggerated drop

in baseline or midway between top and bottom of baseline)



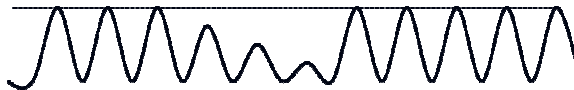
Decrease in amplitude (suppression)



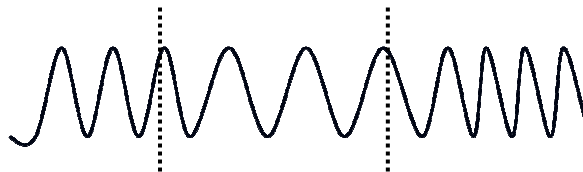
(Includes “ascending” cycles of suppression)



Progressive decrease in amplitude



Decrease in rate



Change in I/E Ratio



Non-RLL – 1 feature :

Baseline arousal (without suppression)



DIAGNOSTIC FEATURES

EDA

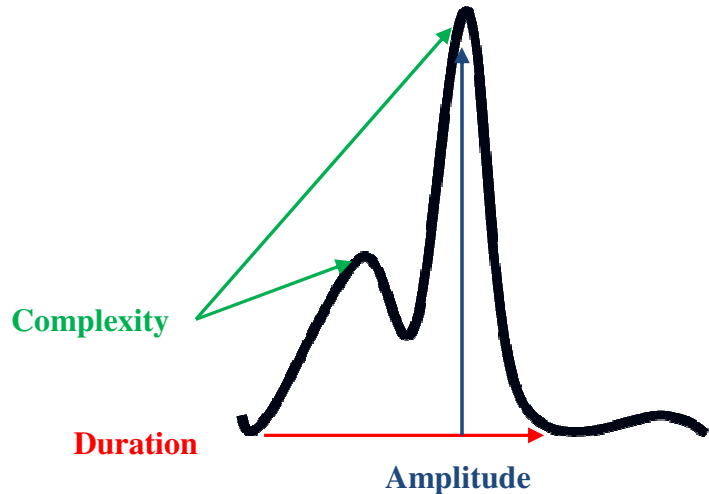
3 Diagnostic Features:

Primary:

1. Amplitude

Secondary:

2. Complexity
3. Duration



Cardiovascular

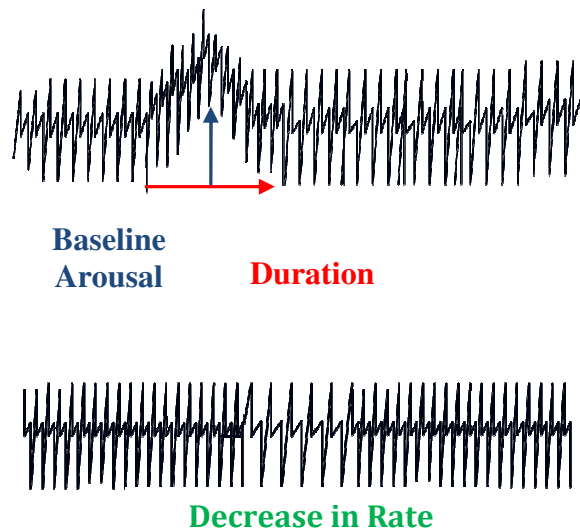
3 Diagnostic Features:

Primary:

1. Baseline Arousal

Secondary:

2. Duration
3. Decrease in Rate



Note: Complexity is NOT a diagnostic feature in cardiovascular tracings.

RESPONSE ONSET WINDOW

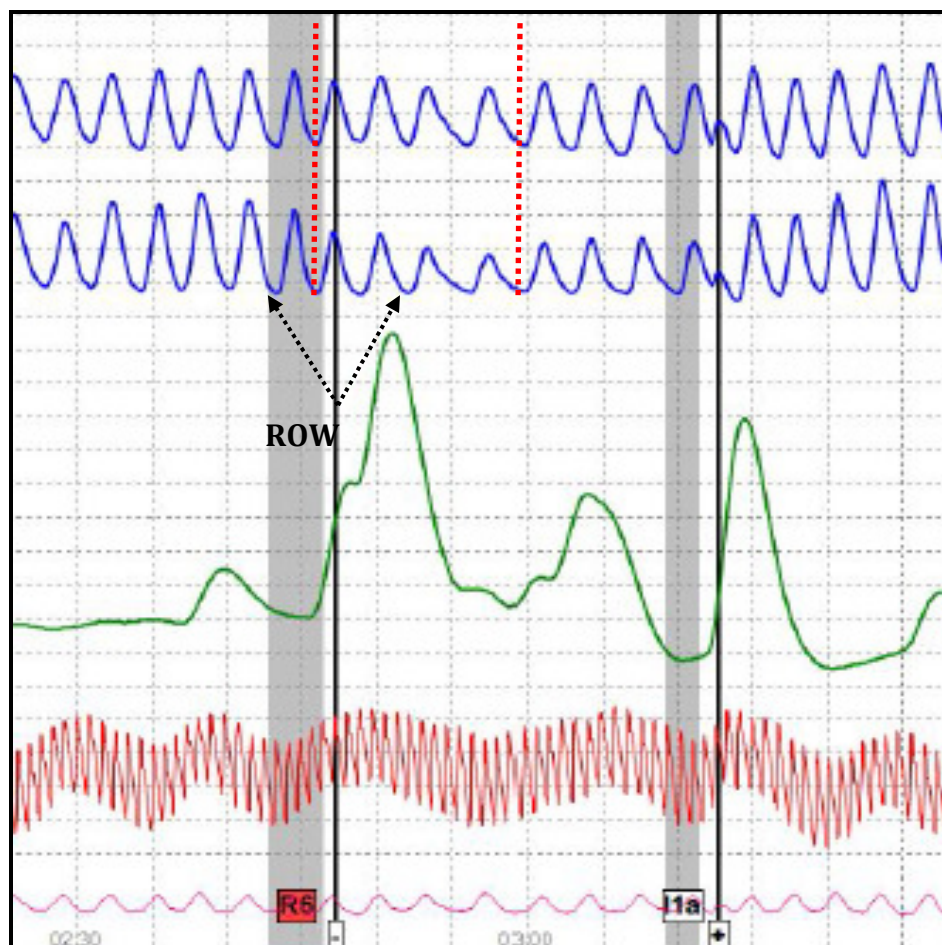
What is the ROW?

- Period of time within which the response must **BEGIN** in order to be considered timely.
 - ✓ Evaluate the **entire response**.

Pneumo tracings:

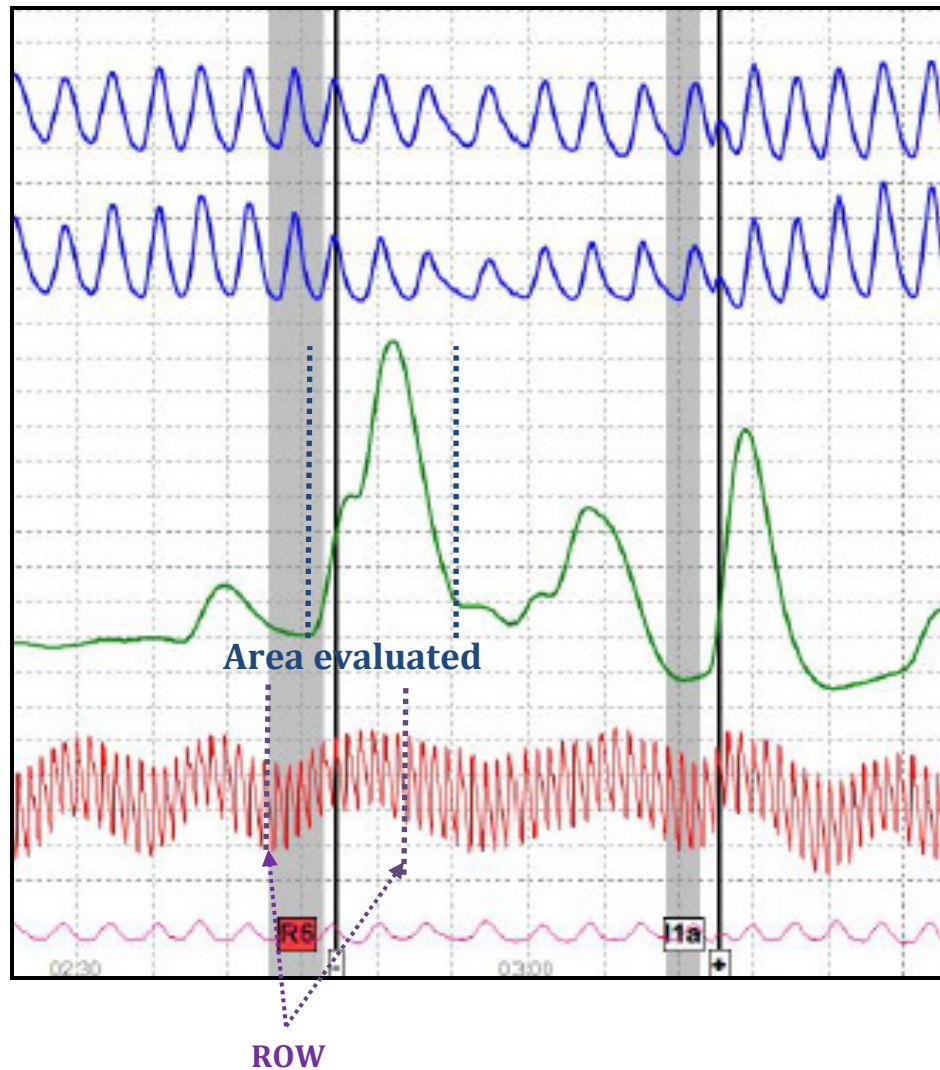
ROW – Question onset *to include* first *complete* cycle past the answer

Evaluate entire response



EDA & Cardio tracings:

ROW - Question Onset to 5 Seconds Past Answer



7-POSITION SCALE

Assigning Values

Respiratory tracing -

- Subtle (+1/-1)
- *Obvious (+2/-2)
- **Dramatic (+3/-3)

*A +2/-2 value may be difficult to assign unless similar respiratory attributes are exhibited or the comparative response is much more significant.

** A +3/-3 is rarely assigned in pneumo tracings.

EDA tracing -

The EDA tracing is generally most responsive. Ratio of response method is used to assign values. Unit of measurement is generally vertical chart division at 1/4" vertical grid setting.

Assigned values are based on ratio scale:

RATIO	VALUE
4:1	+/- 3
3:1	+/- 2
2:1	+/- 1
1:1	0

Cardiovascular tracing -

- **For a value of +1/-1**, response must be *visually larger but less than twice the degree of baseline arousal* than its comparative response.
- **For +2/-2**, response must have *twice but less than three times the degree of baseline arousal* than its comparative response
- **For a +3/-3**, the response must have *three times the degree of baseline arousal or more* than its comparative response

FORMATS – Question Sequencing

Air Force Modified General Question Technique

2 Relevant Questions:

Version 1

I1
SR2
C3 Comparison
R4 (help, plan, participate)
C5 (most encompassing)
R6 (always primary relevant)
C7 Comparison

Version 2

I1
SR2
C3 Comparison
R4 (help, plan, participate)
R5 (always primary relevant)
C6 (most encompassing)

3 Relevant Questions:

Version 1

I1
SR2
C3 Comparison
R4 (help, plan, participate)
C5 (most encompassing)
R6 (always primary relevant)
C7 Comparison
R8 (guilty knowledge)

Version 2

I1
SR2
C3 Comparison
R4 (help, plan, participate)
R5 (always primary relevant)
C6 (most encompassing)
R7 (guilty knowledge or evidence connecting)
C8 Comparison

4 Relevant Questions:

Version 1

I1
SR2
C3 Comparison
R4 (help, plan, participate)
C5 (most encompassing)
R6 (always primary relevant)
C7 Comparison
R8 (evidence connecting)
C9 Comparison
R10 (guilty knowledge)

Version 2

I1
SR2
C3 Comparison
R4 (help, plan, participate)
R5 (always primary relevant)
C6 (most encompassing)
R7 (evidence connecting)
R8 (guilty knowledge or evidence connecting)
C9 Comparison

FORMATS – Question Sequences

You Phase Zone

1 Irrelevant
2 Sacrifice Relevant
SYM3 Symptomatic (yes answer)
C4 Comparison
R5 Relevant
C6 Comparison (most encompassing)
R7 Relevant (lengthen & strengthen)
C8 Comparison
SYM9 Symptomatic (no answer)

Zone Comparison Test

1 Irrelevant
2 Sacrifice Relevant
SYM3 Symptomatic (yes answer)
C4 Comparison
R5 Relevant
C6 Comparison (most encompassing)
R7 Relevant (lengthen & strengthen)
SYM8 Symptomatic (no answer)
C9 Comparison
R10 Secondary Relevant

Law Enforcement Pre-Employment Test (LEPET)

I1 - Irrelevant
SR2 - Sacrifice Relevant
C3 - Comparison
R4 - Relevant
C5 - Comparison
R6 - Relevant
I1a - Irrelevant (disguised as a comparison)
C7 - Comparison
R8 - Relevant
C9 - Comparison
R10 - Relevant
C11 - Comparison

Acquaintance Test

*This format requires the use of 6 numbers in the sequence. The “key” may be in **either** the #3 or the #4 position, with a minimum of 2 padding questions above and below the key.*

1. Regarding the number you wrote, did you write the number 2?
2. Did you write the number 3?
3. Did you write the number 4? *(Key)*
4. Did you write the number 5? *(Key)*
5. Did you write the number 6?
6. Did you write the number 7?

CUT-OFF SCORES

You Phase Zone (2 Relevant Questions)

DI: The score must be a Combined Spot Total of **-3 or lower (-4, -5, etc.)** in any vertical spot **or a grand total of -4 or lower.**

NDI: There must be at least a **+1 or greater in each vertical spot AND a Combined Spot Total of +4 or greater (+5, +6, etc.).**

NO: If the score does not fall in either of the above categories, it is No Opinion.

Scoring Examples:

Example No.	Vertical Total Spot I (R5)	Vertical Total Spot II (R7)	Combined Spot Total	Opinion Rendered
1	+6	0	+6	N.O.
2	+4	-1	+3	N.O.
3	+2	+2	+4	NDI
4	-2	-2	-4	DI
5	+3	+1	+4	NDI
6	0	-3	-3	DI
7	+1	+2	+3	NO

CUT-OFF SCORES

Zone Comparison Test (3 Relevant Questions)

DI: The score must be a Combined Spot Total **of -3 or lower (-4, -5, etc.)** in any vertical spot **or a grand total of -6 or lower.**

NDI: There must be at least a **+1 or greater in each vertical spot AND a Combined Spot Total of +6 or greater (+7, +8, etc.).**

NO: If the score does not fall in either of the above categories, it is No Opinion.

Scoring Examples:

Example No.	Vertical Total Spot I (R5)	Vertical Total Spot II (R7)	Vertical Total Spot III (R10)	Combined Spot Total	Opinion Rendered
1	+6	0	+6	+12	N.O.
2	+4	-1	-2	+1	N.O.
3	-1	+6	+6	+11	N.O.
4	+2	+2	+2	+6	NDI
5	-2	-2	-2	-6	DI
6	+3	+3	+2	+6	NDI
7	+3	+3	-3	+2	DI
8	0	0	-3	-3	DI
9	+1	+1	+1	+3	N.O.

CUT-OFF SCORES

AFMGQT – Versions 1 and 2

DI: At least one overall spot total must be a -3 or lower (-4, -5, etc.).

NDI: Each overall vertical score must be a +3 or greater.

NO: Anything else is No Opinion.

Note: In the AFMGQT format, there is NO grand overall total used, as in the ZCT and You Phase Zone formats.

Scoring Examples:

Example No.	Vertical Total Spot I (R4)	Vertical Total Spot II (R6)	Vertical Total Spot III (R8)	Opinion Rendered
1	+2	+3	+1	N.O.
2	+4	-1	+3	N.O.
3	+3	+3	+3	NDI
4	-3	-4	-3	DI
5	+3	+1	+5	NO
6	0	-3	+3	DI
7	+3	+5	+4	NDI
8	+4	+3	-4	DI
9	+4	+3	+5	NDI

QUESTION ORDER OF REVIEW

Questions should be reviewed in the following order:

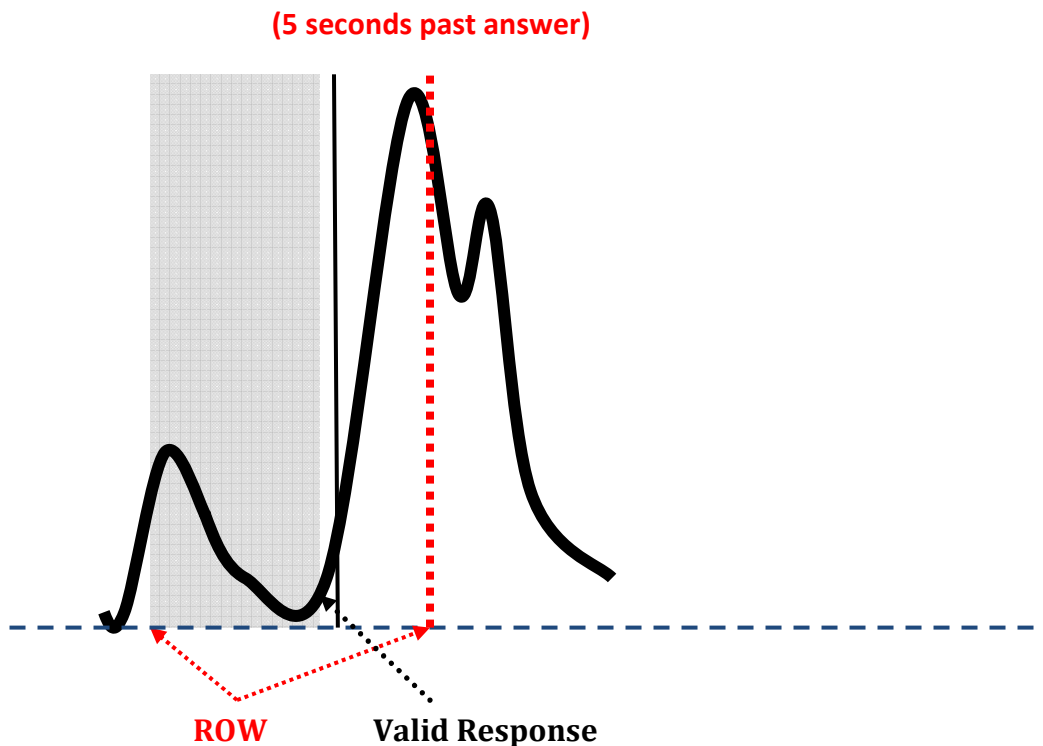
1. Sacrifice Relevant
2. Relevant
3. Comparison
4. Neutral (Irrelevant)
5. Symptomatic (for ZCT and You Phase ZCT)

Exceptions to Homeostasis

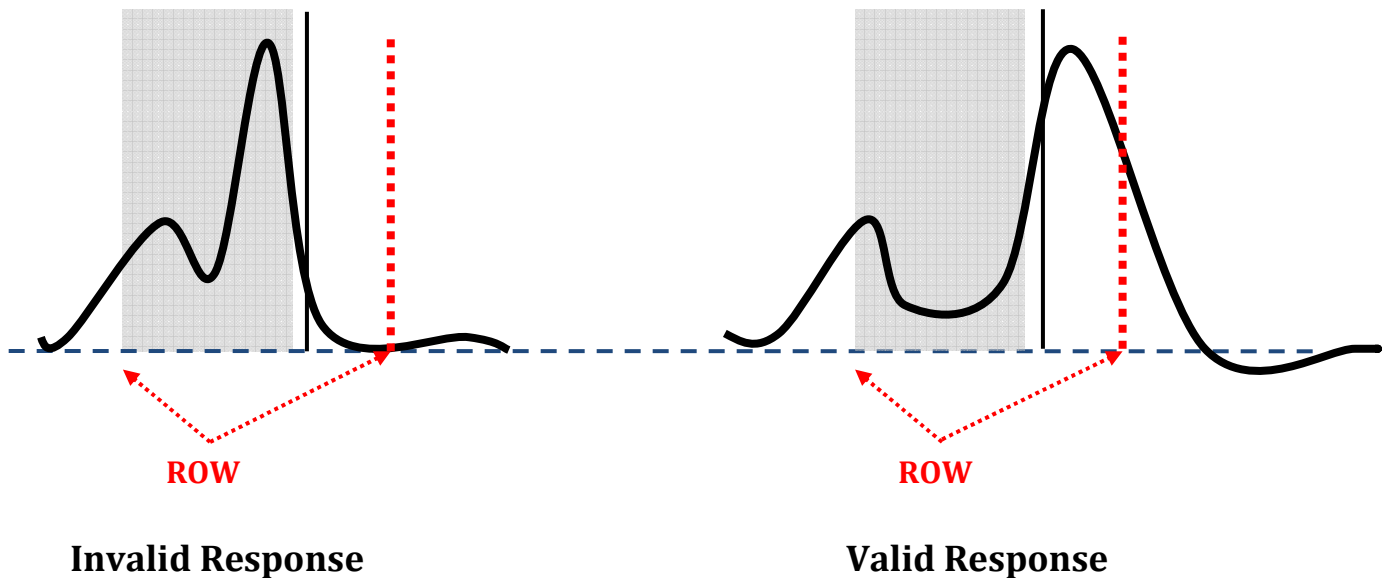
EDA Tracings

Three Exceptions:

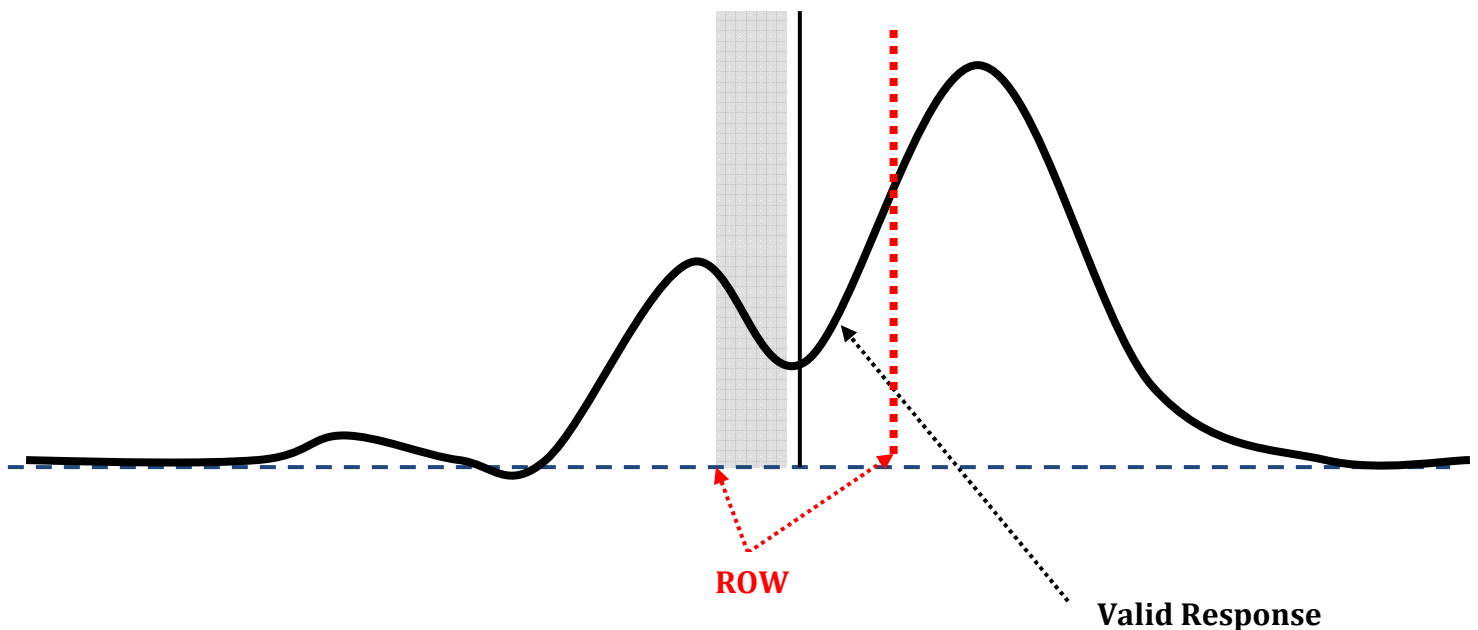
#1 – Waveform returns to baseline (following an early response) with a subsequent response beginning within the ROW:



#2 – The tracing establishes a new baseline (3-4 seconds) **and** begins a new response within the ROW.



#3 – When question onset occurs *during recovery* of an “early” response, and a “*subsequent but distinct*” response occurs *within ROW*.



Something vs. Nothing Principle

EDA Tracings

NCCA Numerical Evaluation Pamphlet 2017, p. 31

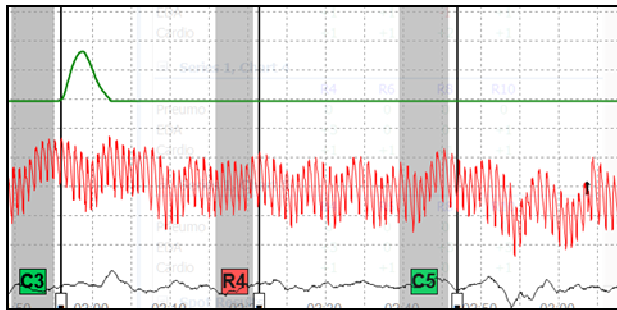
Something-Versus-Nothing Principle. When comparing one question containing any type of diagnostic response to another question that is devoid of response, the something-versus-nothing principle holds.

5.13.1.1. If one comparative question is **devoid of response** and the other comparative question has a response that measures **less than two chart divisions**, assign a value of **plus or minus one**.

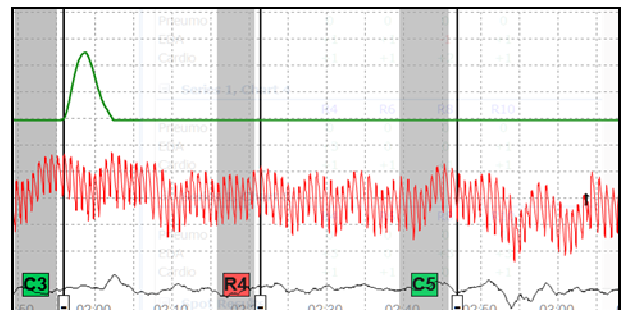
5.13.1.2. If one comparative question is **devoid of response** and the other comparative question has a response that measures **at least two but less than three chart divisions**, assign a value of **plus or minus two**.

5.13.1.3. If one comparative question is **devoid of response** and the other comparative question has a response that measures **at least three chart divisions**, assign a value of **plus or minus three**.

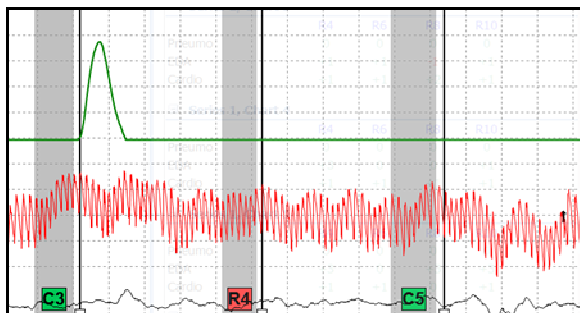
5.13.2. *If a response appears to be an anomaly for that channel or waveform, a lesser value than would otherwise be justified, under the something-versus-nothing principle, can be assigned to an analysis spot.* This conservative approach to evaluation of an analysis spot must be uniformly applied and exercised in only the most unique circumstances.



C3 EDA is between 1-2 chart divisions: is devoid of response. Score = +1



C3 EDA is between 2-3 chart divisions; R4 is devoid of response. Score = +2



C3 EDA is at least 3 chart divisions; R4 is devoid of response. Score = +3

Note: When we have an EDA response that is less than one full CD, it is acceptable to increase sensitivity to bring it to one full chart division and use the standard ratio guidelines to assign value.

However, if one question is devoid of response, you **MAY NOT** increase sensitivity to the comparative spot to assign a greater value.

Exceptions to Homeostasis Cardio Tracings

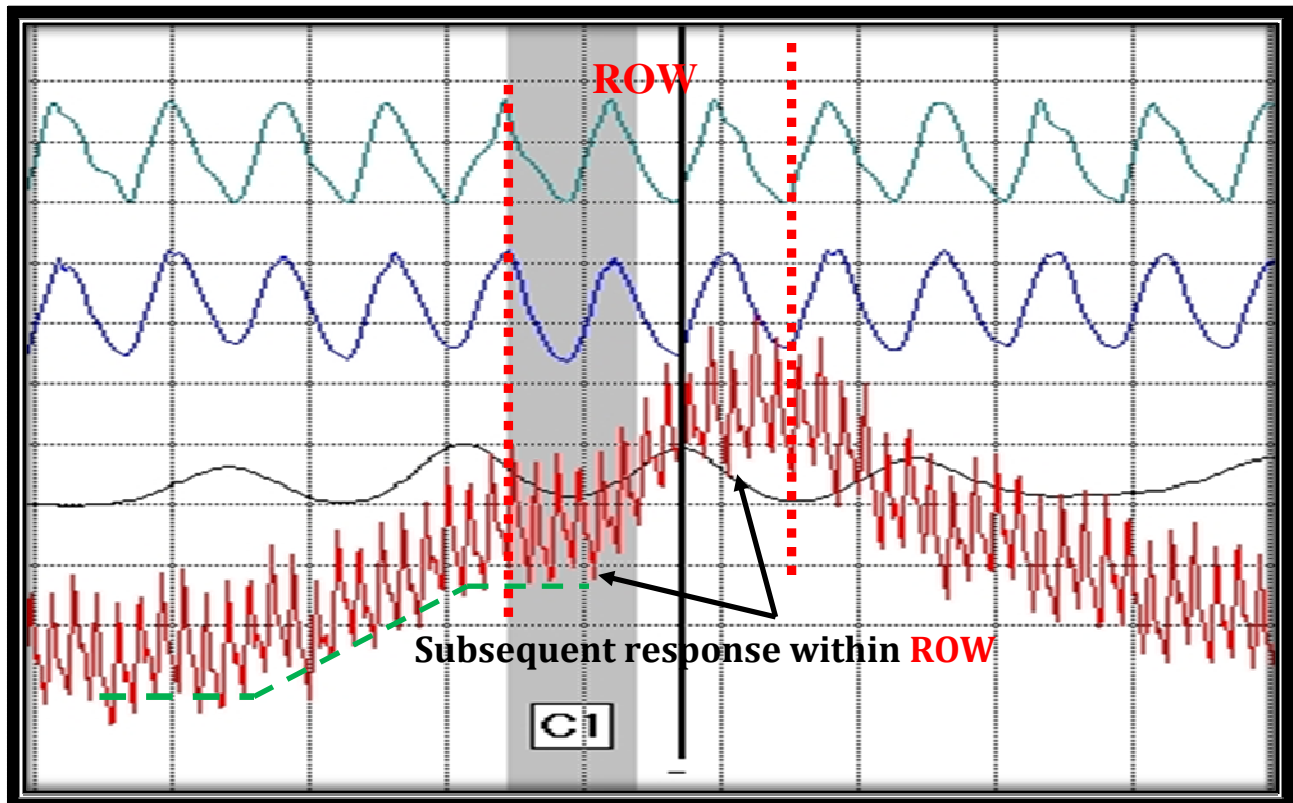
Three Exceptions:

1. Early response *just prior to asking a question* -

Must . . .

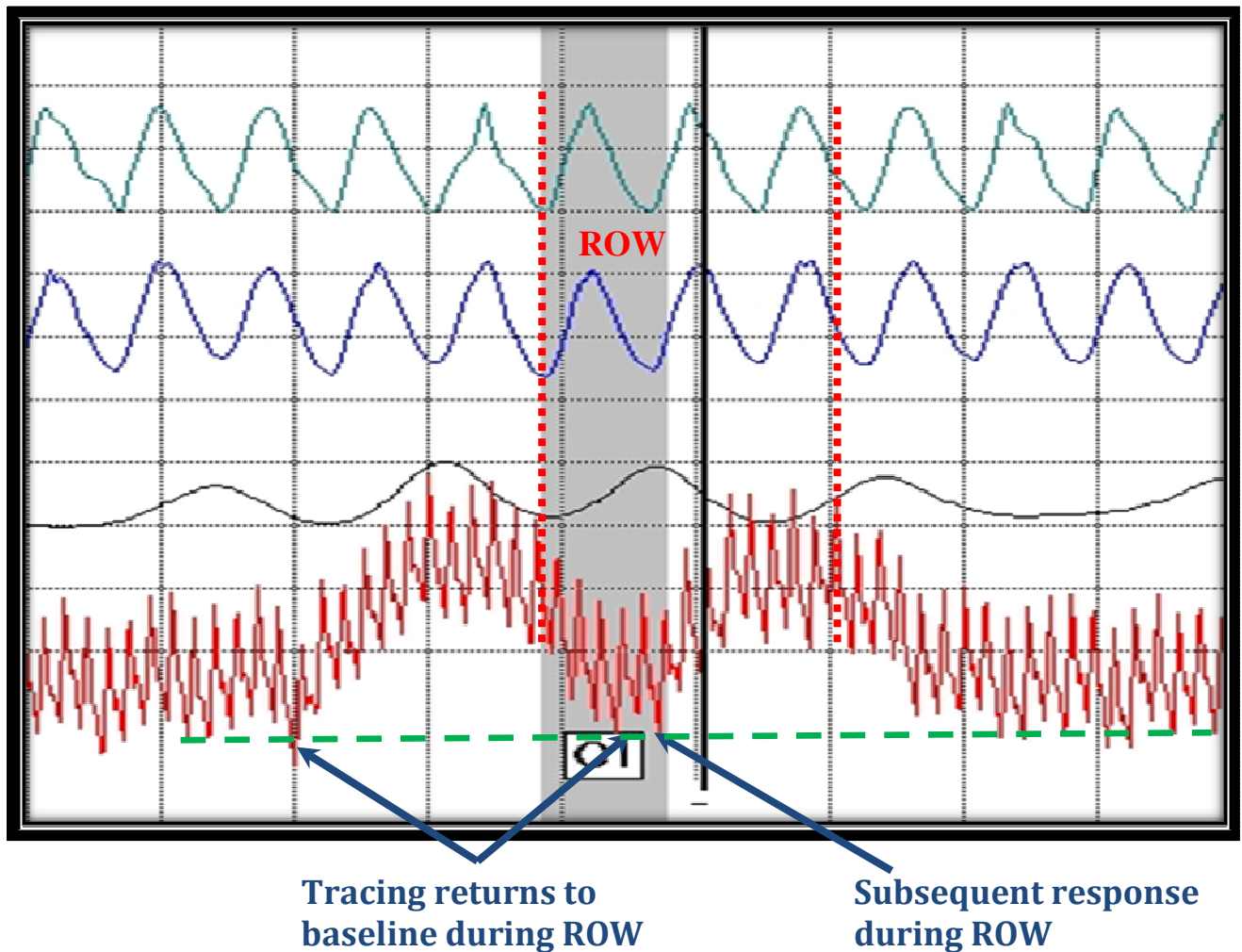
- establish a new baseline, **and**
- there is a subsequent response that begins **within ROW**.

Note: Latency outside of ROW is not considered

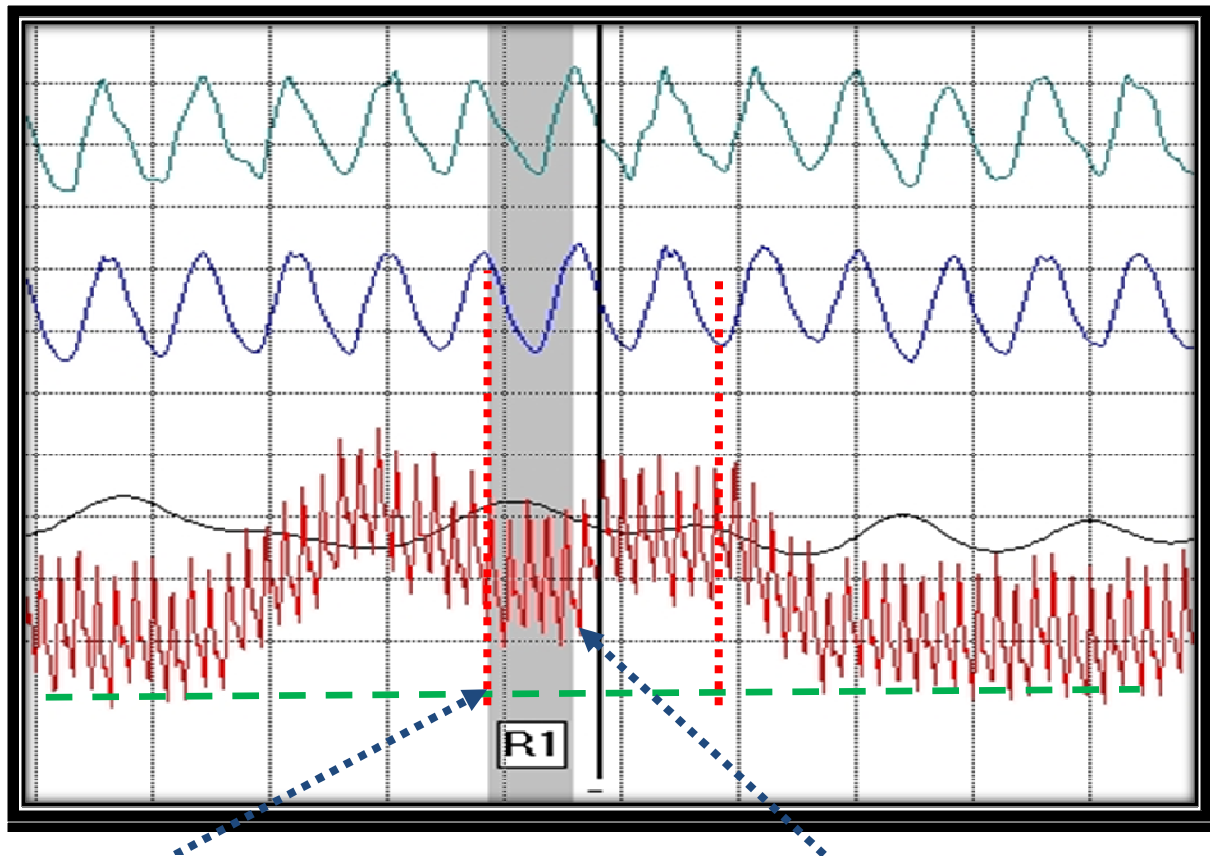


2. Question onset is on the ***recovery side*** of CV waveform

- Tracing returns to pre-stimulus level during ROW, **and**
- Subsequent response occurs during ROW



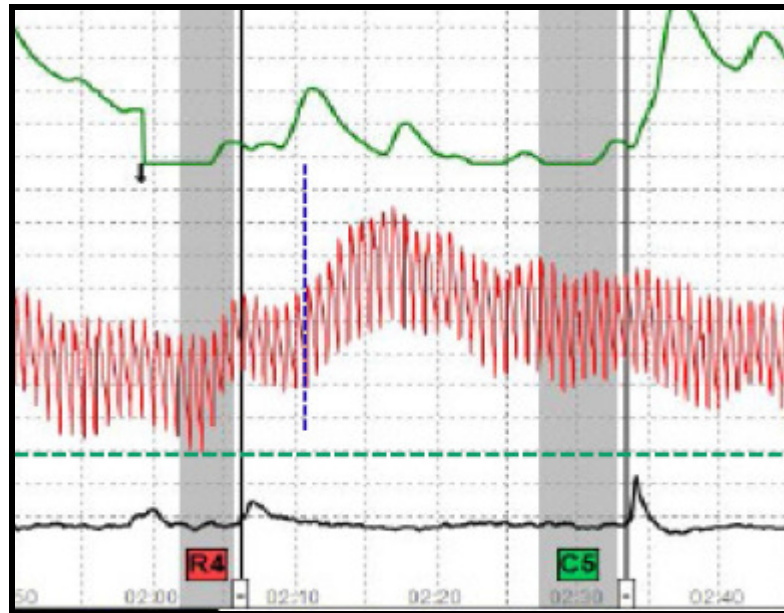
3. Question onset is on the ***recovery side*** of cardiovascular response
- a. Subsequent, but distinct, response during ROW (with no return to baseline first)



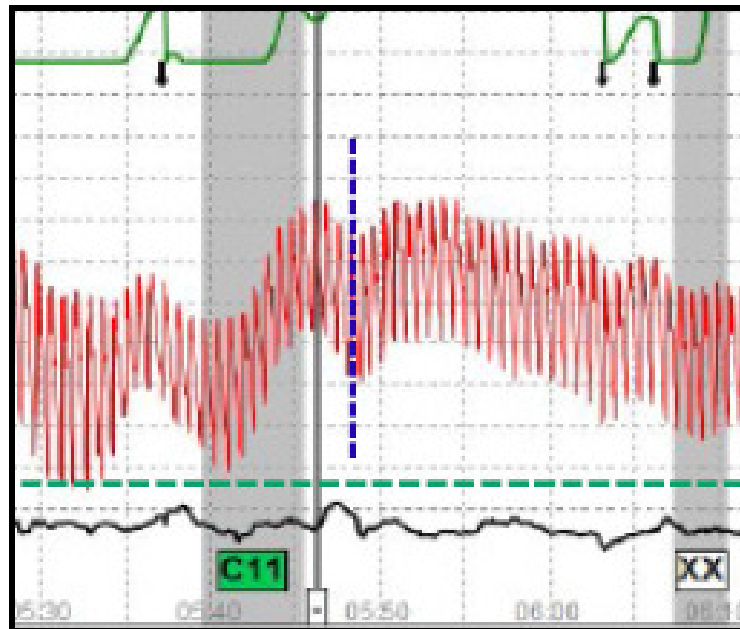
No return to baseline

**Subsequent, but distinct,
response during ROW**

No Complexity in Cardiovascular Responses



Tracing establishes new baseline; secondary rise is **not** considered for evaluation purposes.



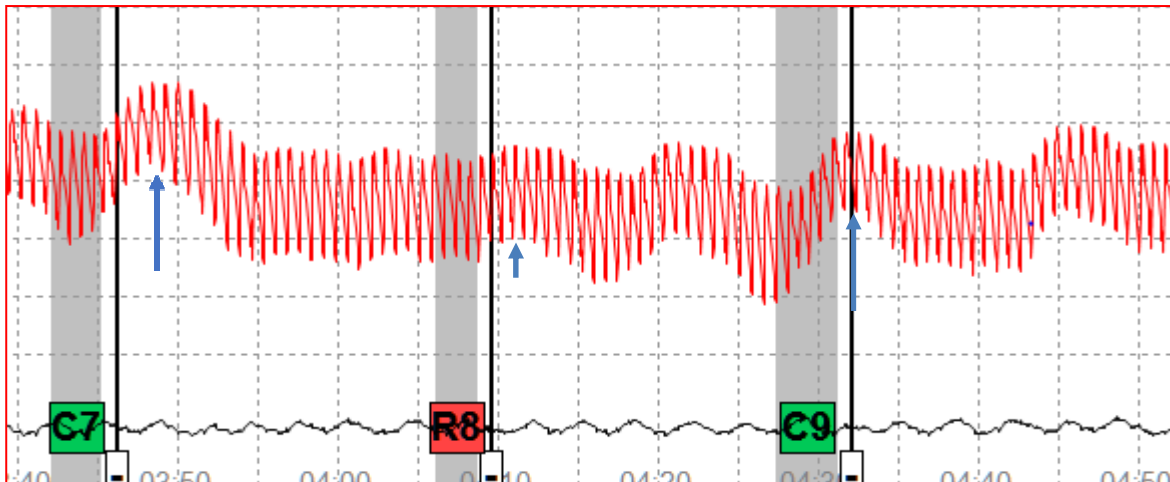
Tracing does NOT establish new baseline; however, secondary rise is still **not** considered for evaluation purposes.

Cardio Tracings: When the Smaller Response is Less Than 1 Chart Division

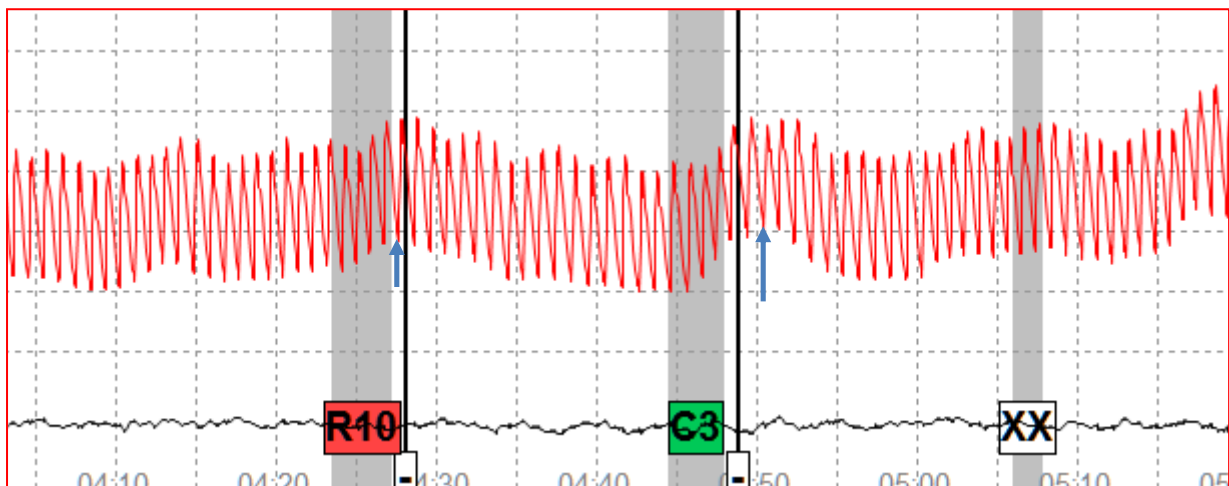
TDA Handbook 2017, page 38

6.9.4. Values more significant than plus or minus one are not assigned when comparing CV responses that are **differentiated by less than the equivalent of one standard chart division** (i.e., one quarter inch or six millimeters in height).

- When a response is less than one chart division, the larger of the two responses should be at least **one full chart division larger** than the lesser response if assigning a value greater than ± 1 .



C7 and C9 cardios are **more than 1 full chart division higher in amplitude** than R8. Therefore, the standard “ratio” applies ($3:1 = \pm 3$).



Although the comparison question (C3) is twice the amplitude of R10, it is **not** a full chart division higher in amplitude. Therefore, the value remains a **+1** because the **difference in amplitude is not more than the minimum of one chart division**.

Uniform Chart Markings

DB	Deep Breath	T	Talking
BI	Breathing Instruction	TI	Talking Instruction
B	Belch	AI	Answer Instruction
C	Cough	MV	Movement
CT	Clear Throat	MI	Movement Instruction
LGH	Laugh	EE	Examiner Error
SI	Sigh	PW	Poorly Worded
SN	Sniff	OSN	Outside Noise
SW	Swallow	ISN	Inside Noise
SZ	Sneeze	RLW	Repeat the Last Word
WU	Wake Up	SAT	Silent Answer Test
Y	Yawn	WRQ	Will Repeat Question