



Seizures, Rhythmic, and Periodic Patterns



RHYTHMIC OR PERIODIC PATTERNS (RPPs)

All patterns recorded must consist **of main term #1 followed by #2**, with modifiers added as appropriate.

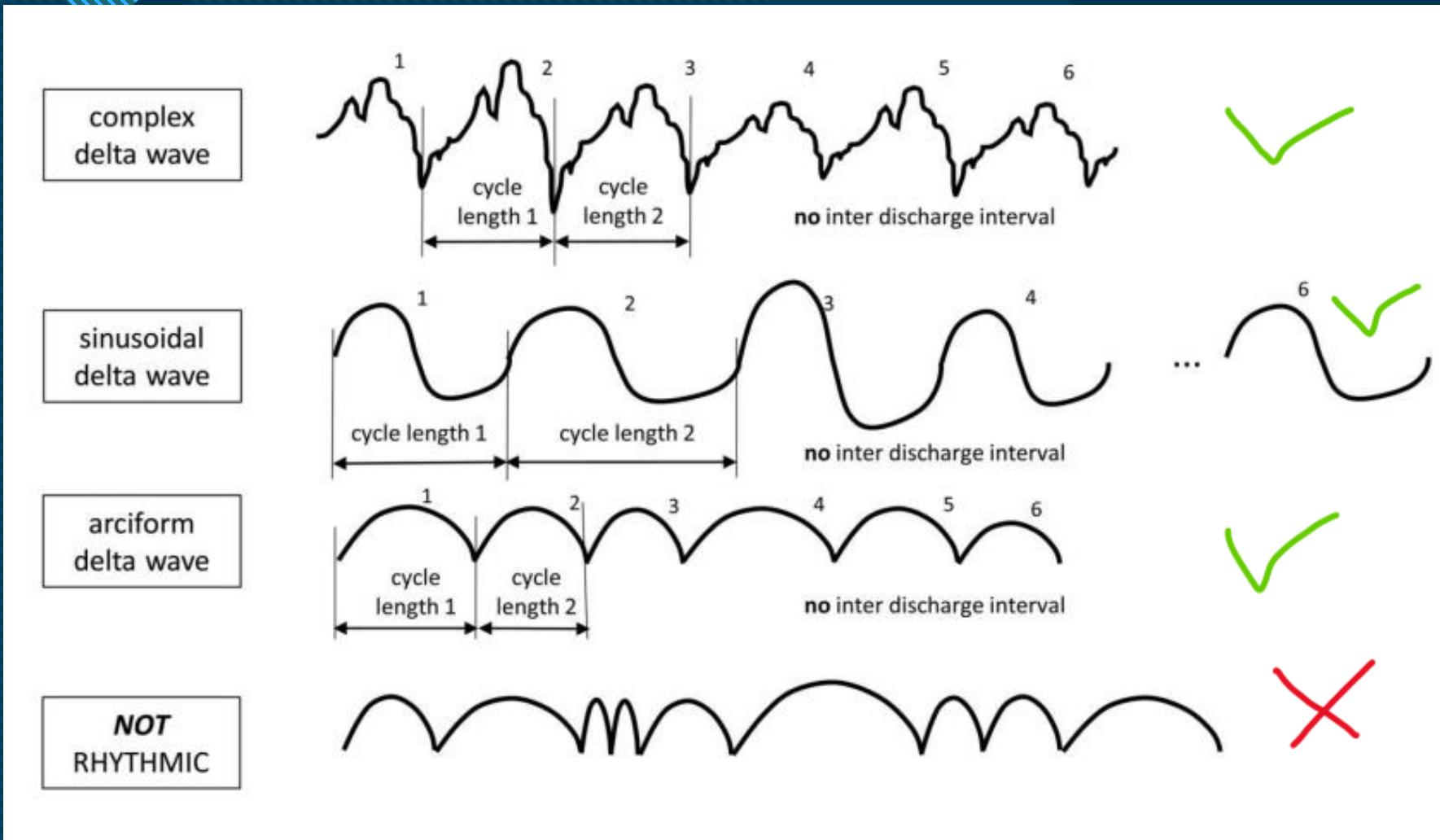
Main Terms:

1. Generalized (G) OR Lateralized (L) OR Bilateral Independent (BI) OR Unilateral Independent (UI) OR Multifocal (Mf)
2. Periodic Discharges (PDs) OR Rhythmic Delta Activity (RDA) OR Spike-Wave (SW; includes sharp-wave and polyspike-wave)

Notes:

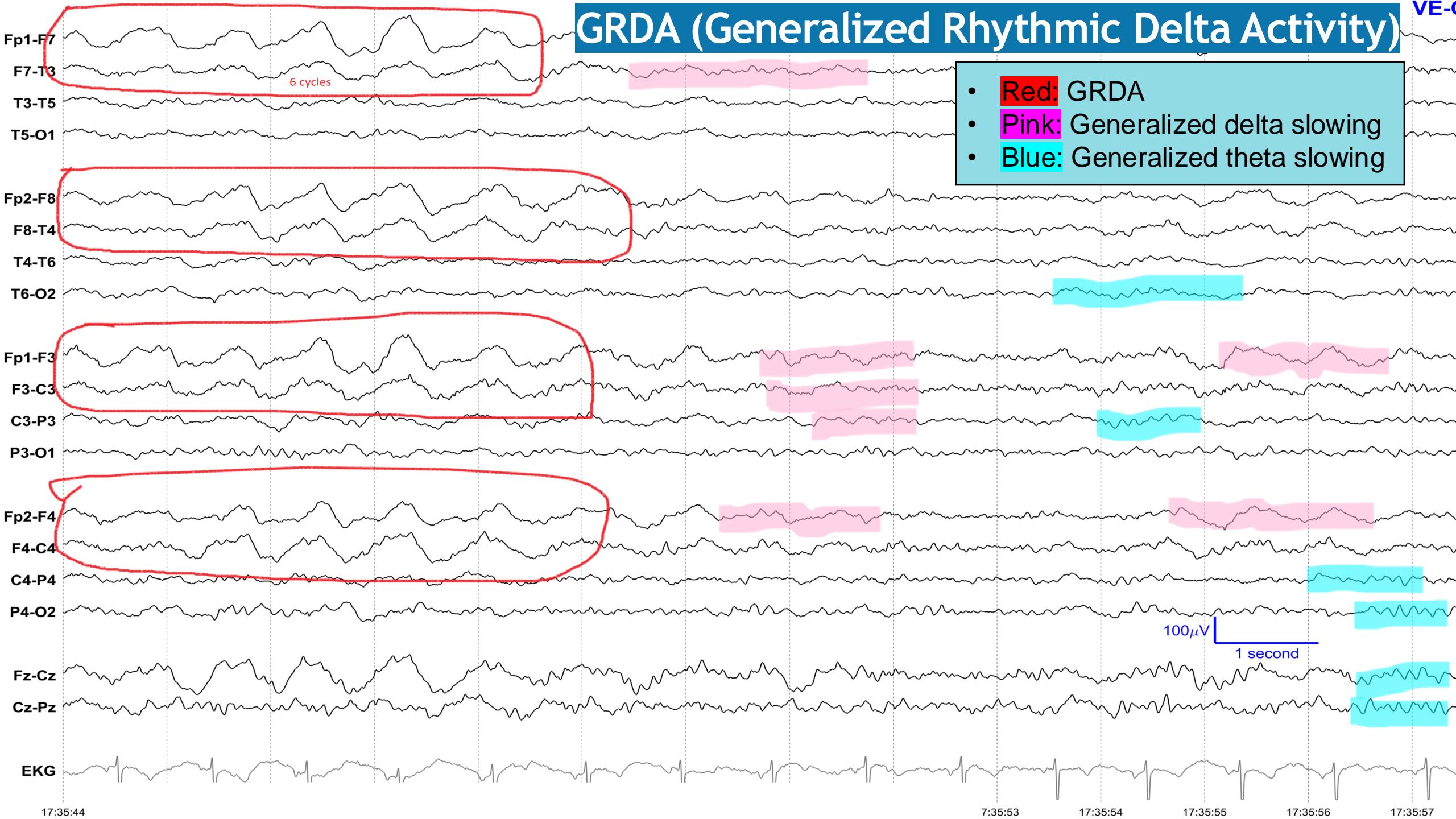
- A pattern can qualify as rhythmic or periodic as long as it continues for at least **6 cycles** (e.g., 1/s for 6s, or 3/s for 2s).
- If a pattern qualifies as both PDs and RDA simultaneously, it should be coded as PDs+R rather than RDA+S

Rhythmic Patterns: GRDA, LRDA, EDB

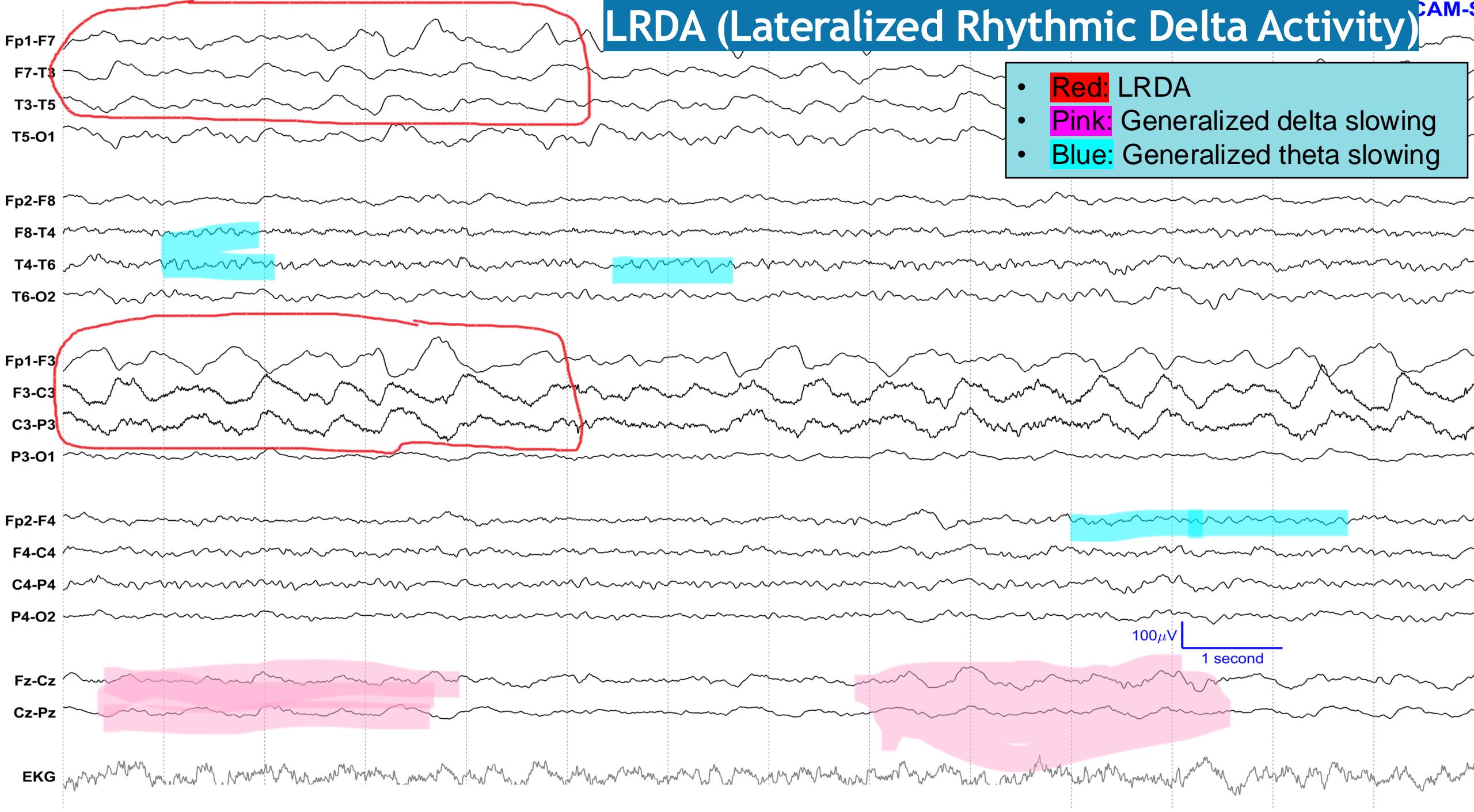


Hirsch LJ, Fong MWK, Leitinger M, et al. American Clinical Neurophysiology Society's Standardized Critical Care EEG Terminology: 2021 Version. J Clin Neurophysiol. 2021;38(1):1-29. doi:10.1097/WNP.0000000000000806

GRDA (Generalized Rhythmic Delta Activity)



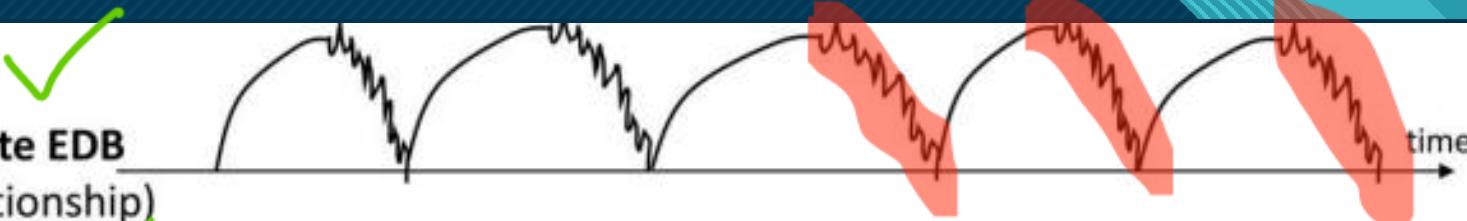
LRDA (Lateralized Rhythmic Delta Activity)



What is an Extreme Delta Brush (EDB)? What is not?

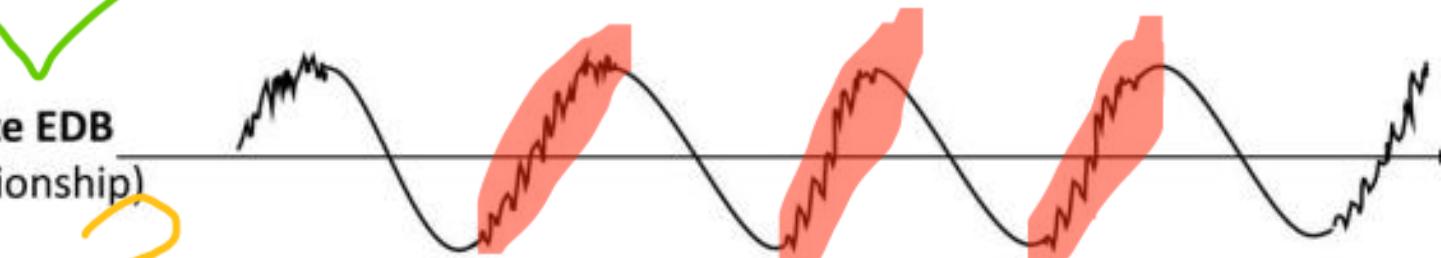
EXAMPLE A:

RDA+F and definite EDB
(stereotyped relationship)



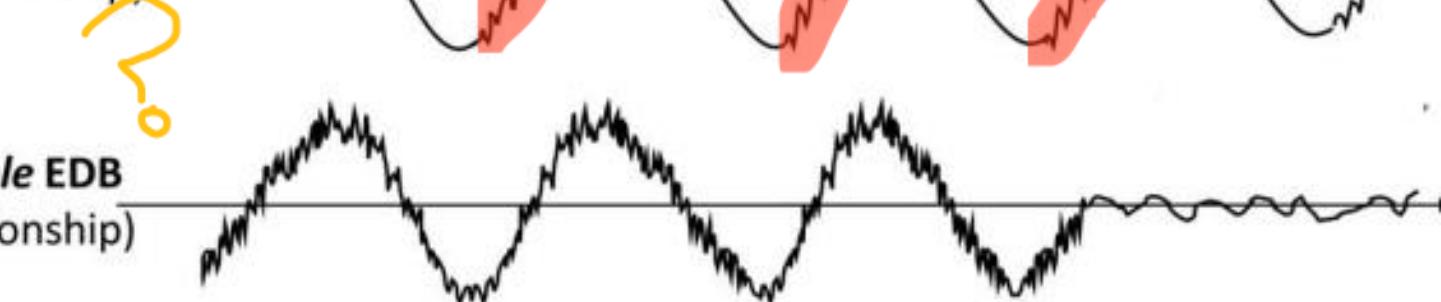
EXAMPLE B:

RDA+F and definite EDB
(stereotyped relationship)



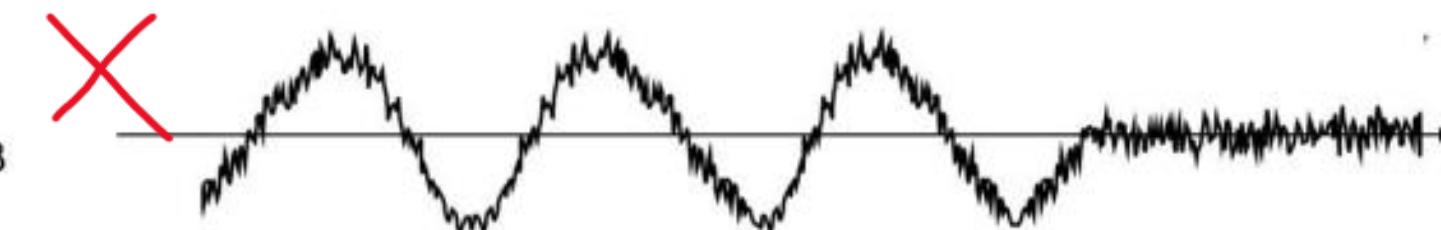
EXAMPLE C:

RDA+F and possible EDB
(NO stereot. relationship)

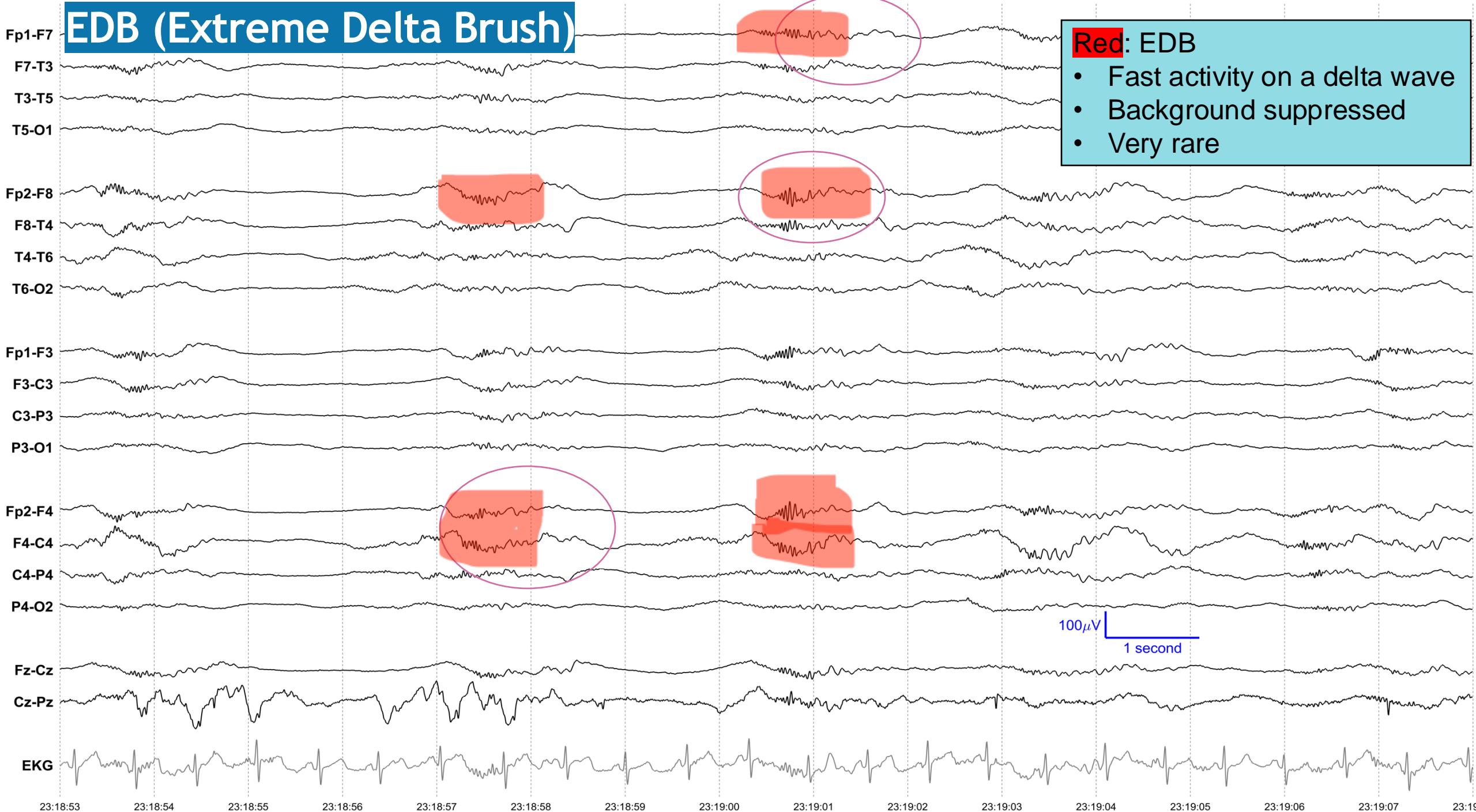


EXAMPLE D:

**RDA but NOT +F
and NOT EDB**

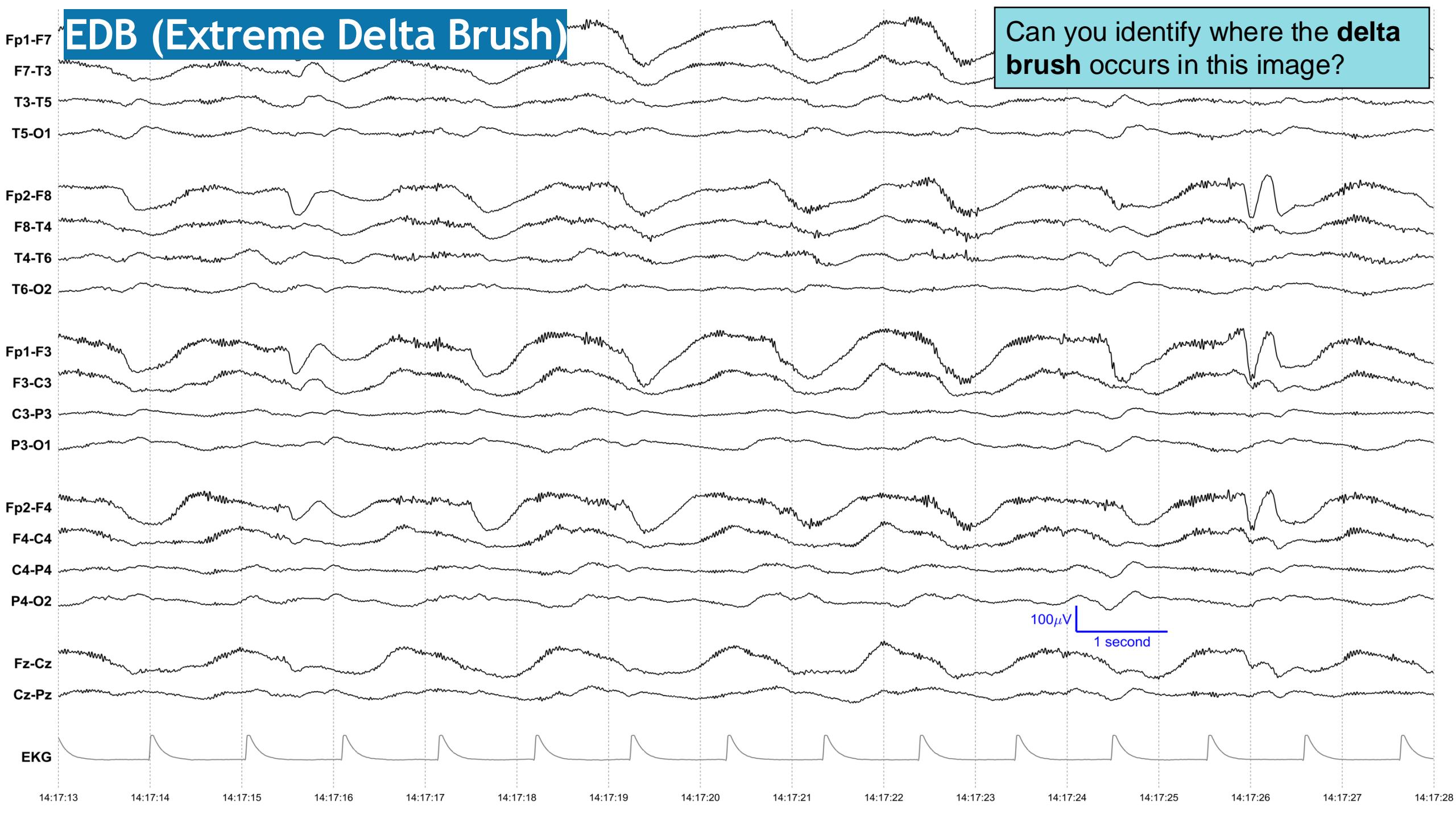


EDB (Extreme Delta Brush)



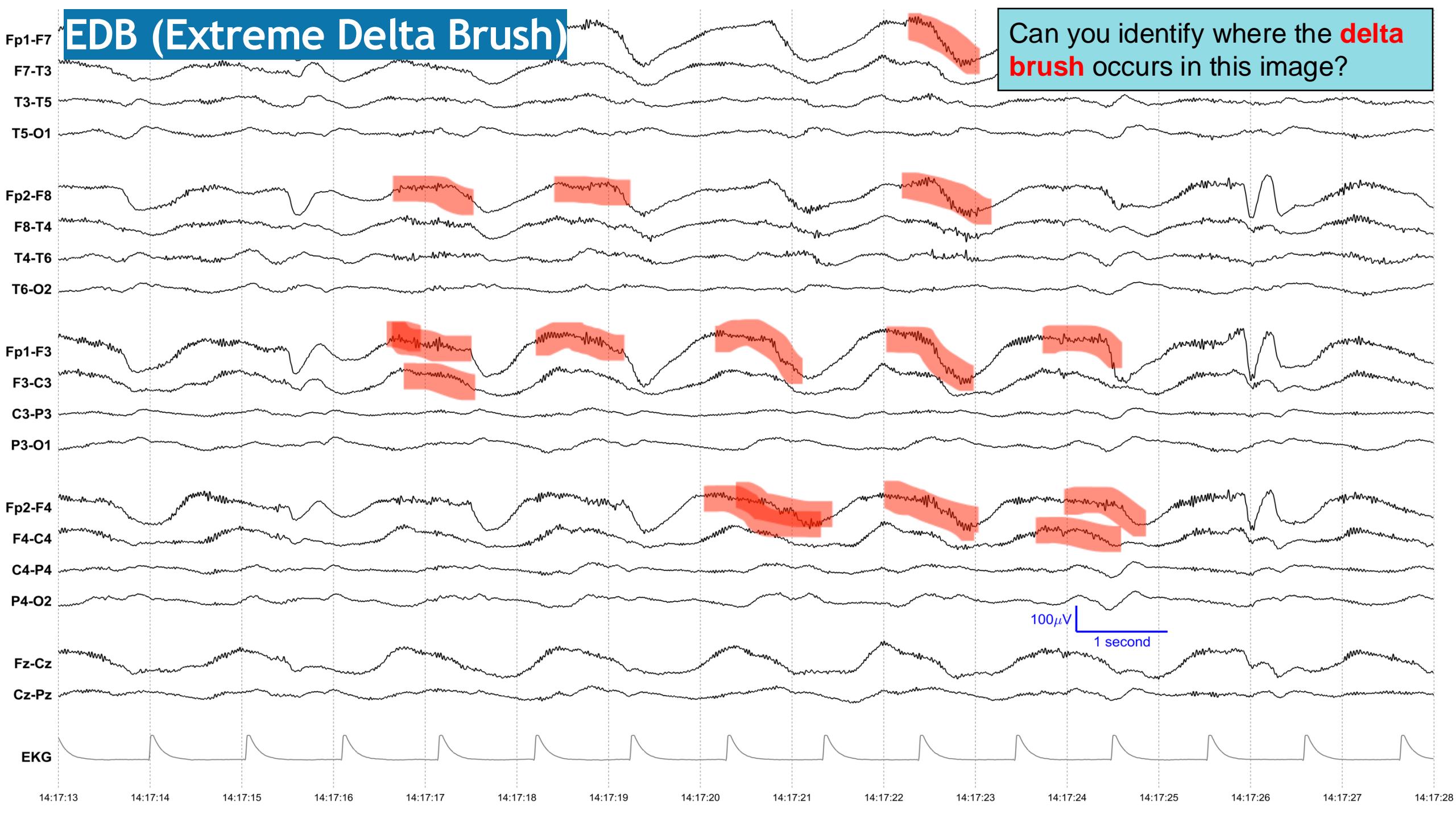
EDB (Extreme Delta Brush)

Can you identify where the **delta brush** occurs in this image?

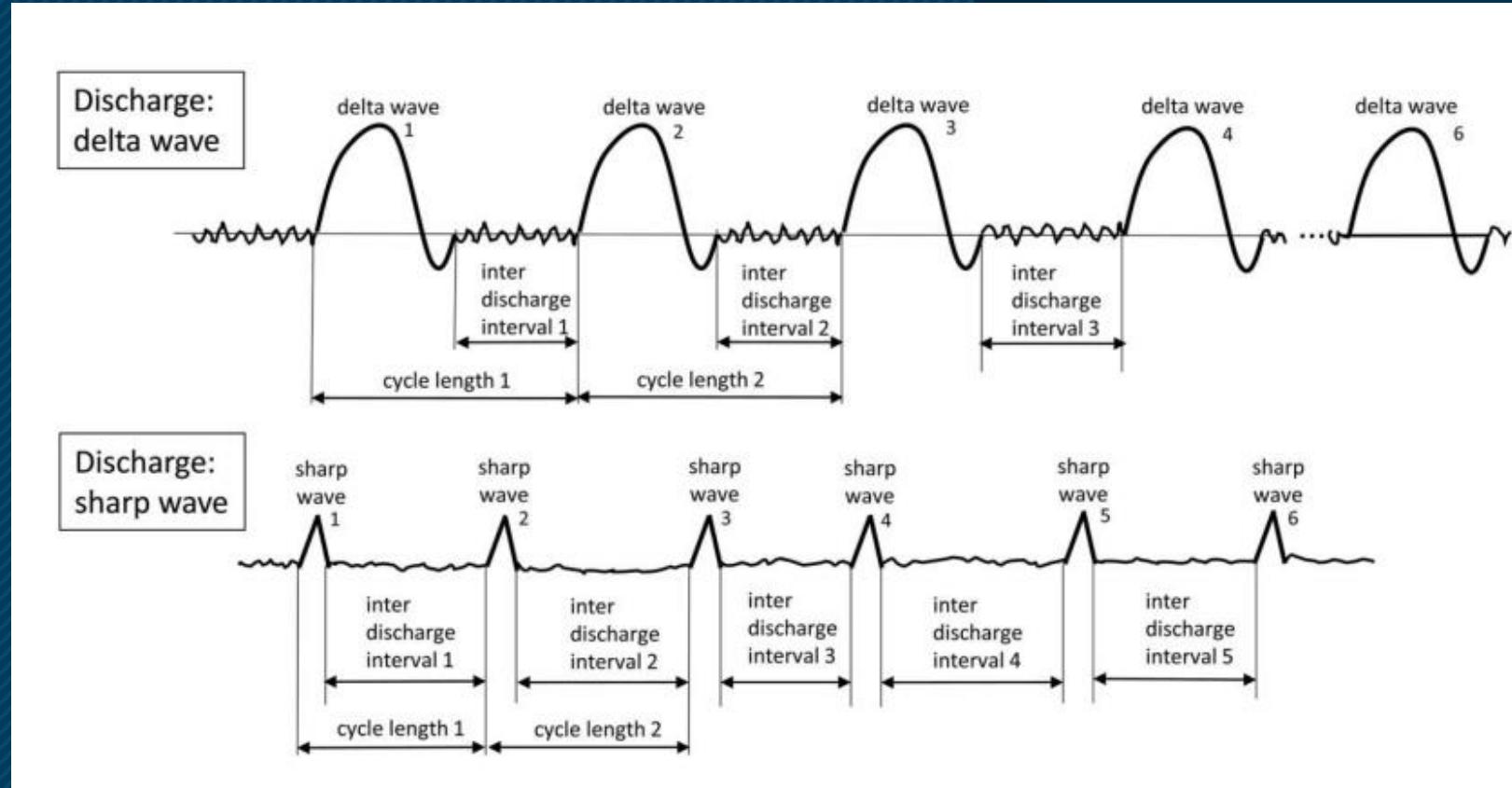


EDB (Extreme Delta Brush)

Can you identify where the **delta brush** occurs in this image?

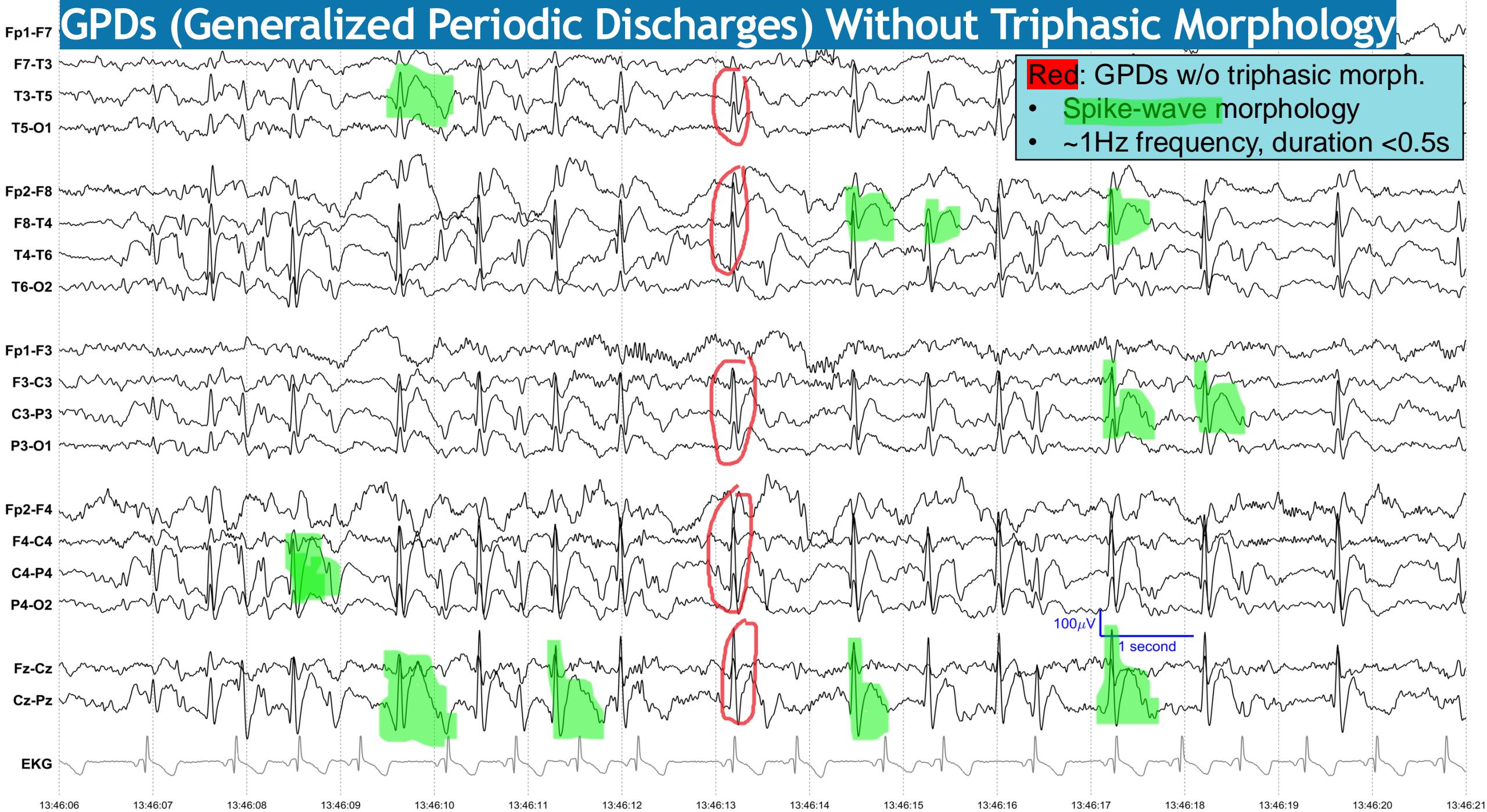


Periodic Patterns: GPDs, LPDs, BIPDs



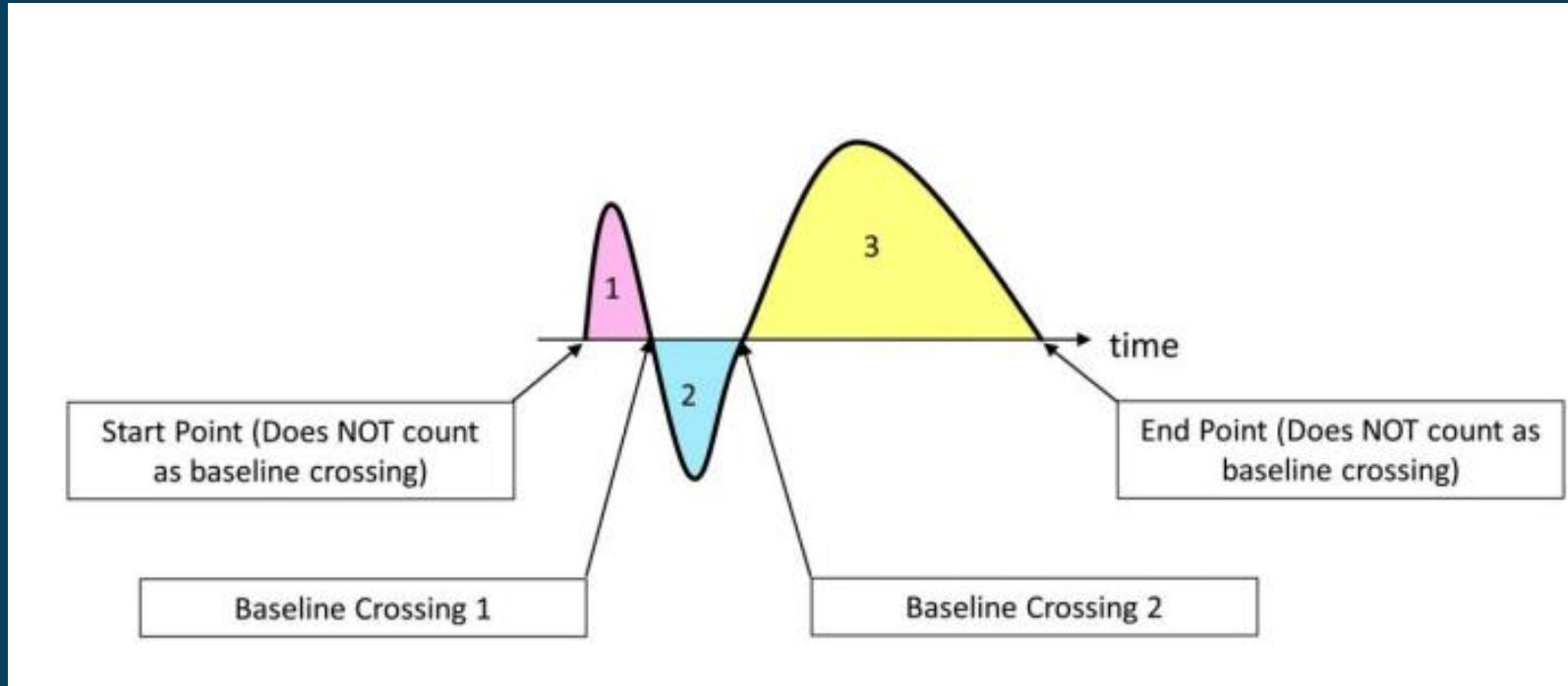
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GPDs (Generalized Periodic Discharges) Without Triphasic Morphology



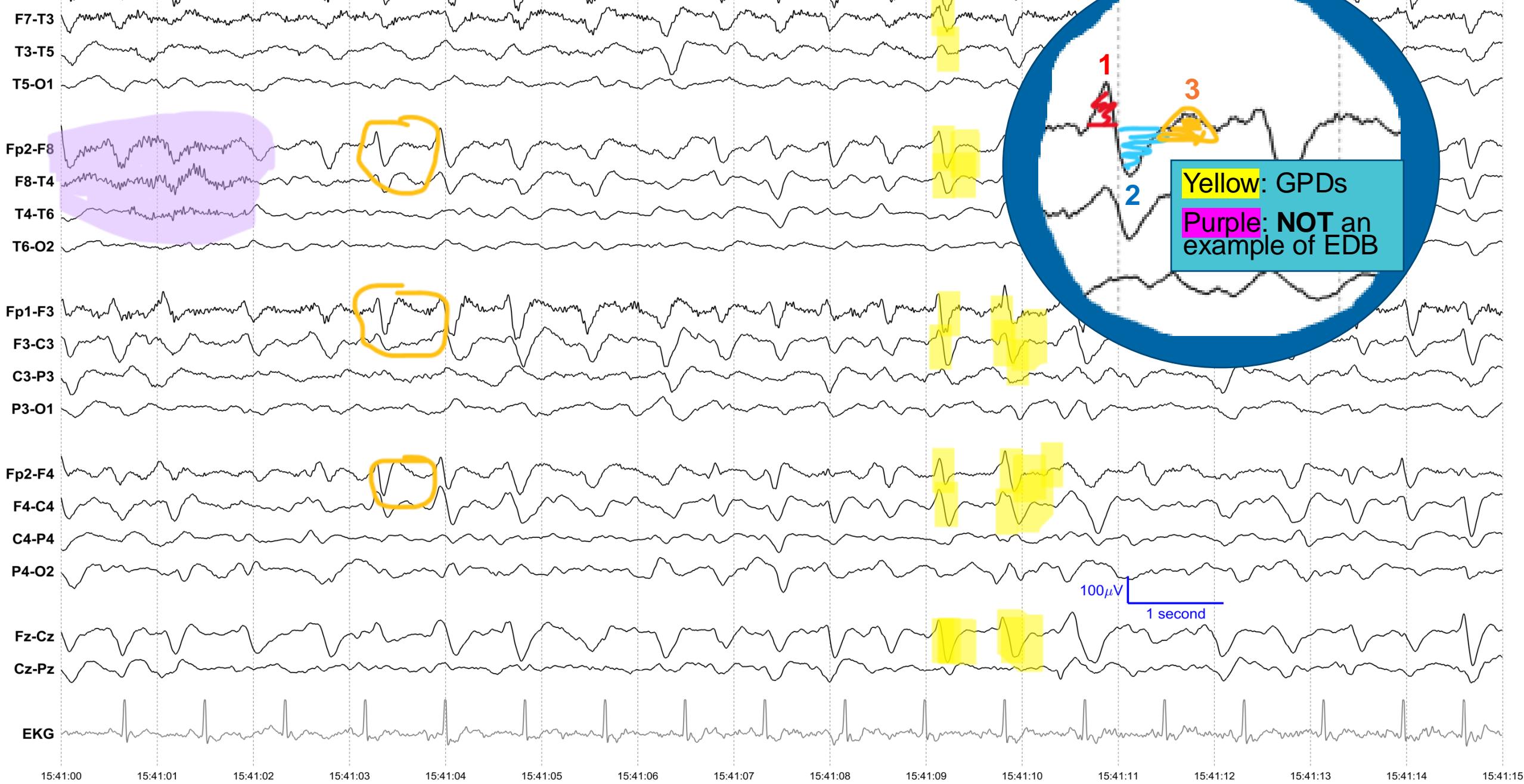
Phases of Triphasic Morphology

NOTE: GPDs with spike-wave morphology ARE NOT the same as triphasic waves (no phase 2)

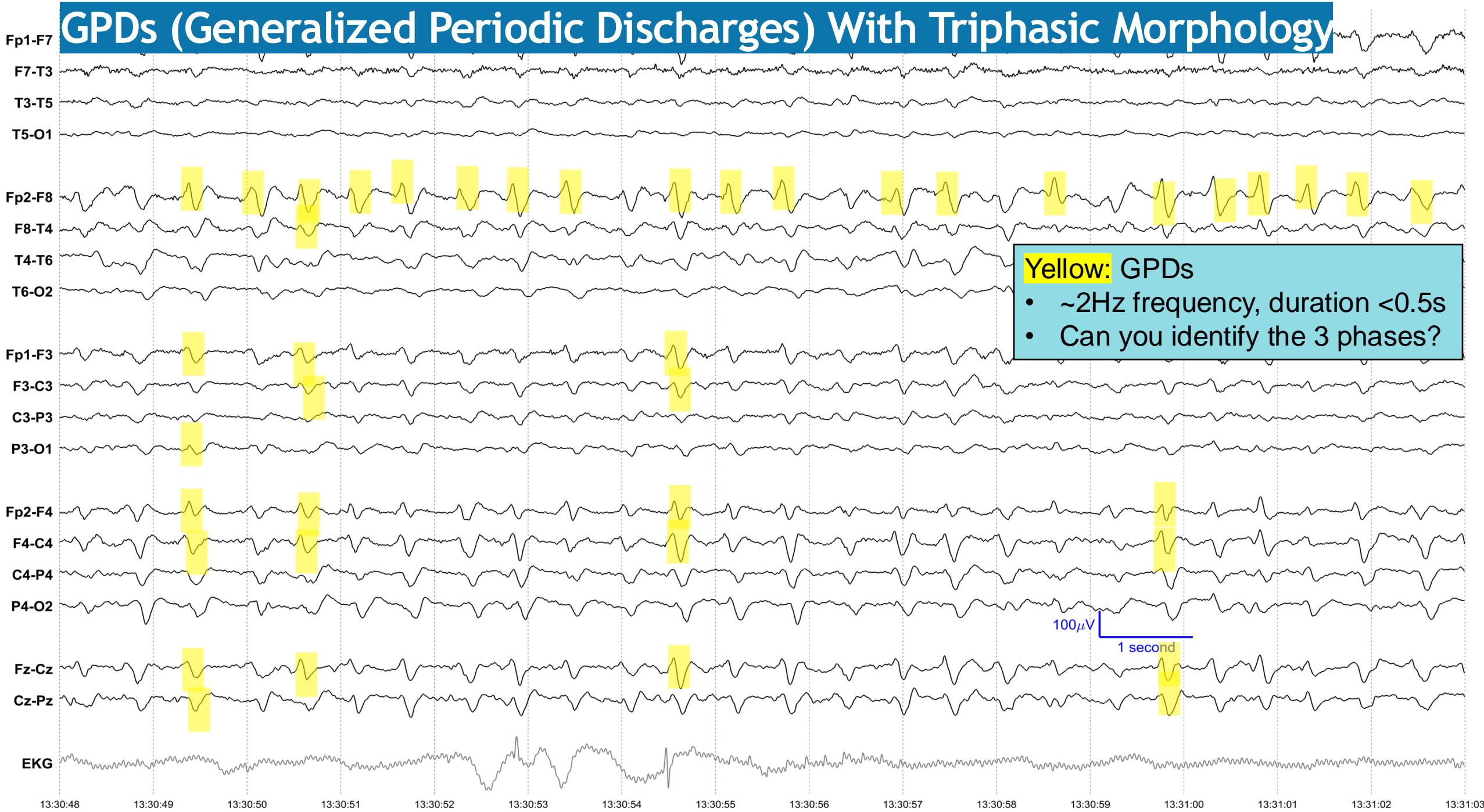


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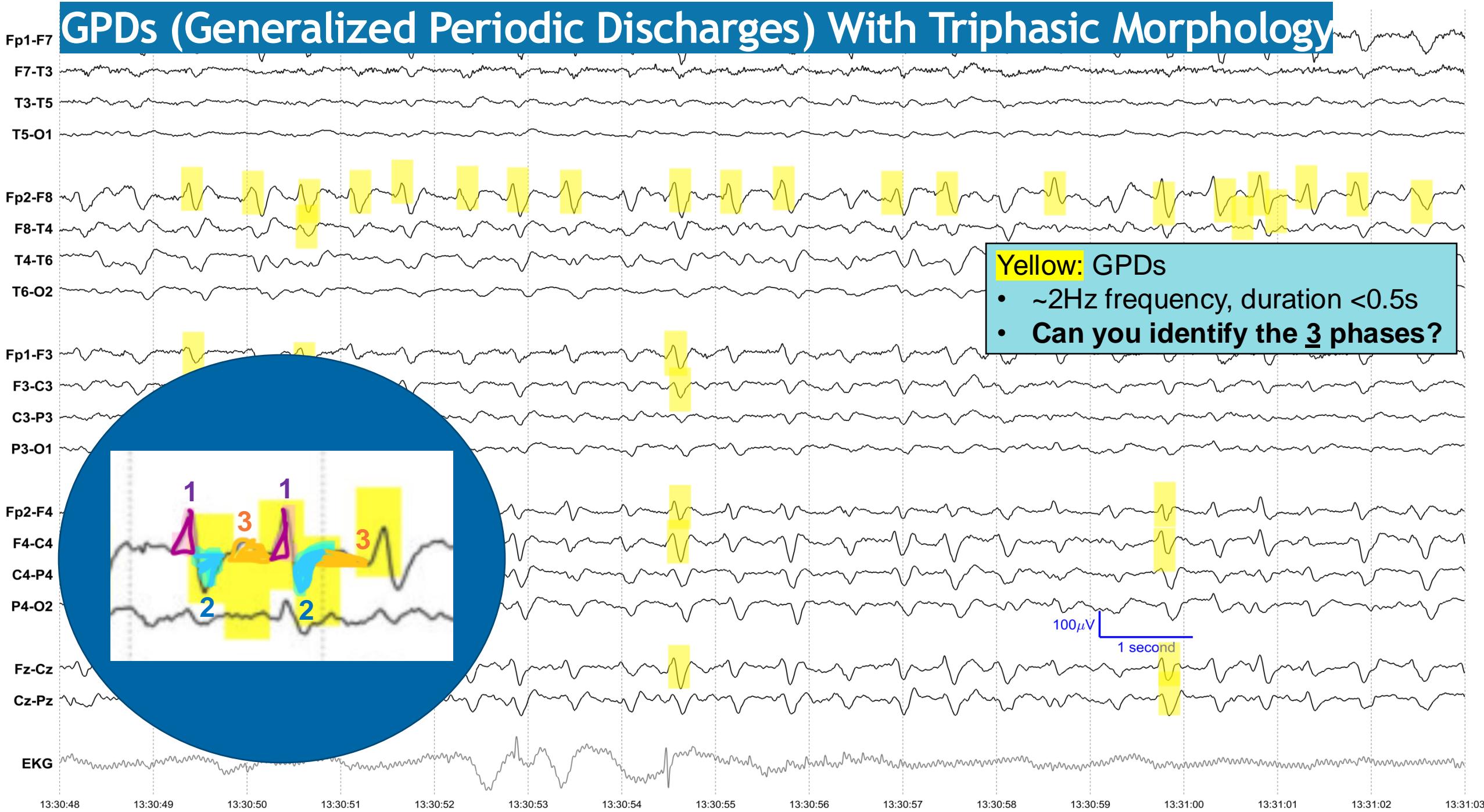
GPDs (Generalized Periodic Discharges) With Triphasic Morphology



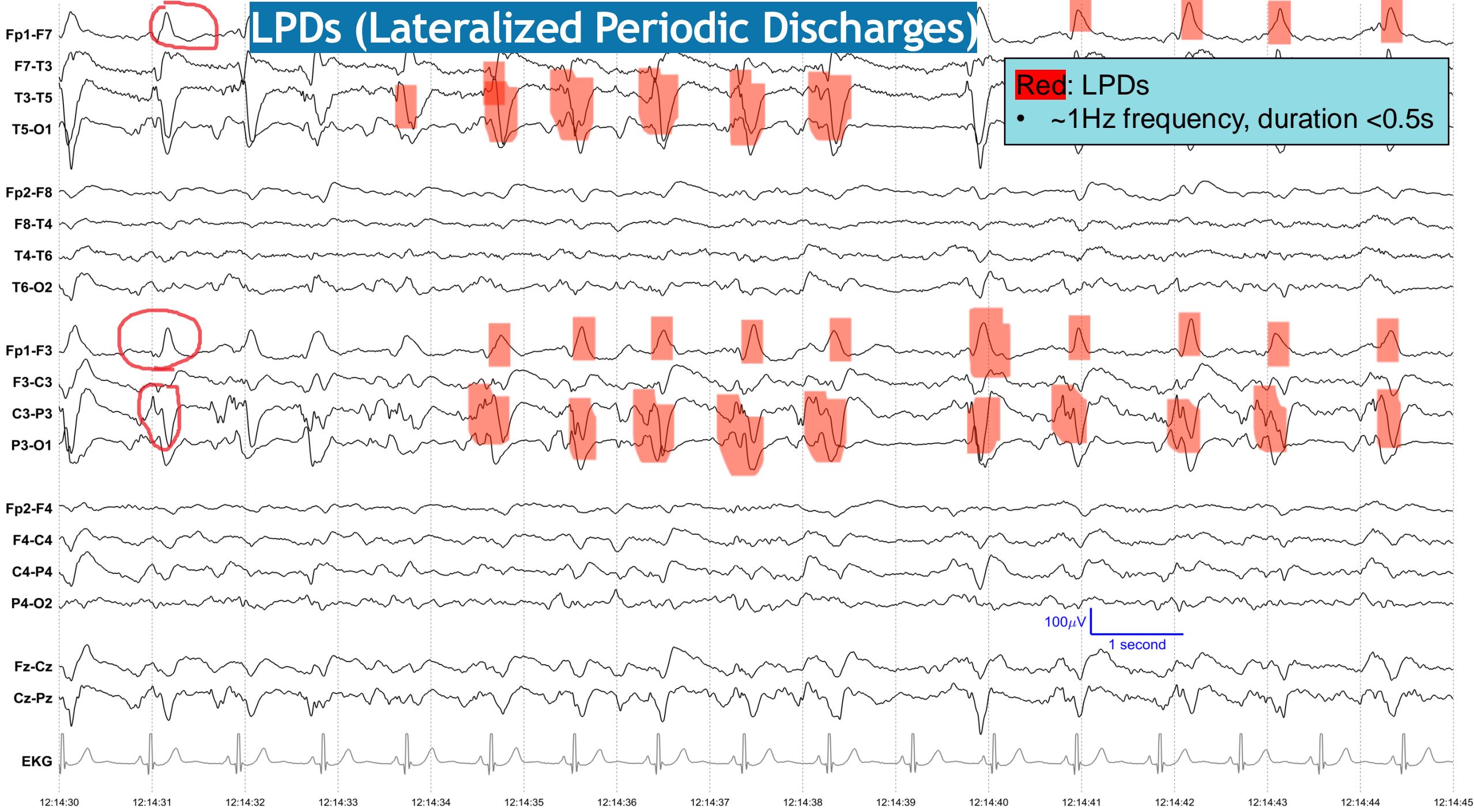
GPDs (Generalized Periodic Discharges) With Triphasic Morphology



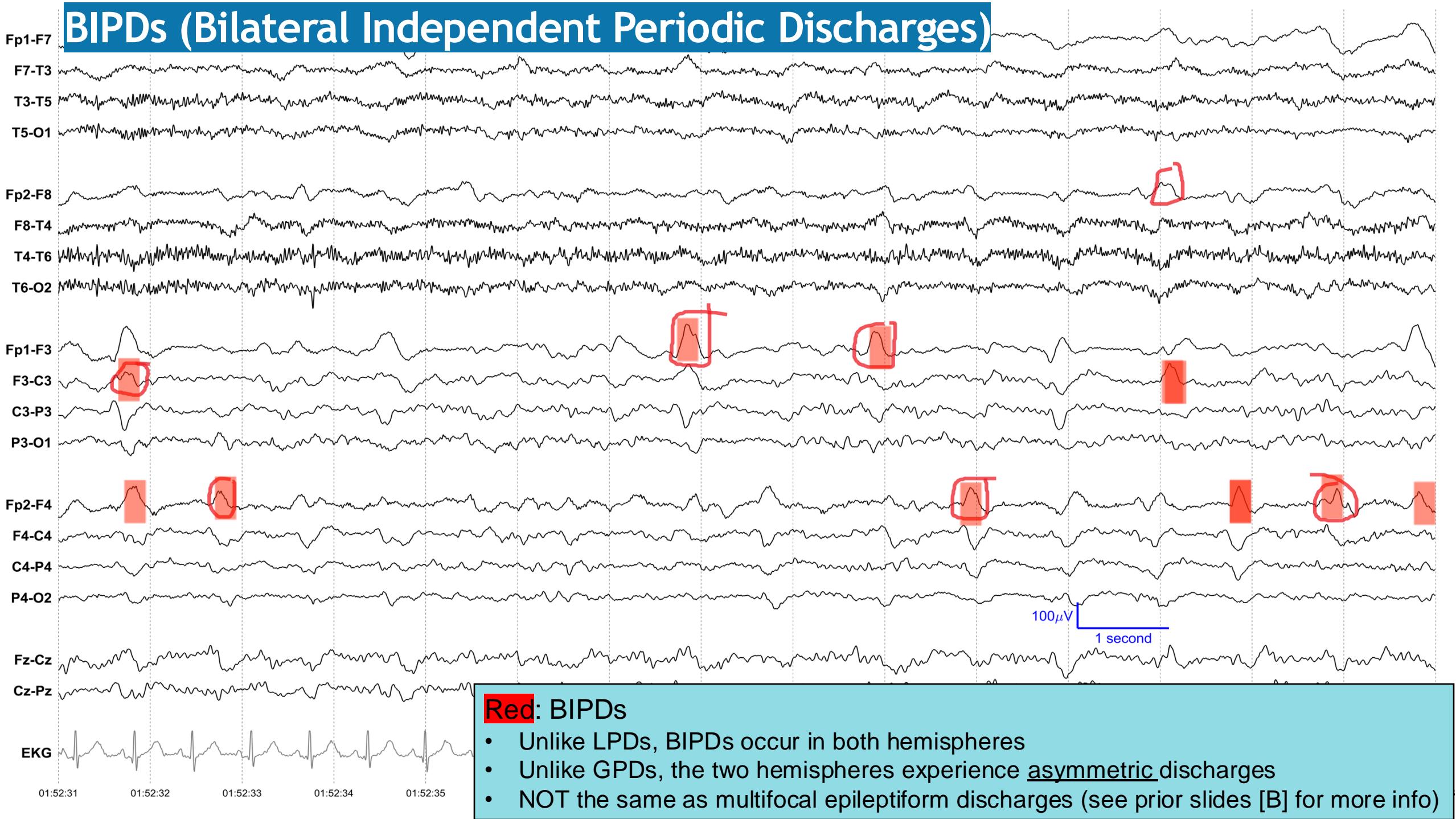
GPDs (Generalized Periodic Discharges) With Triphasic Morphology



LPDs (Lateralized Periodic Discharges)



BIPDs (Bilateral Independent Periodic Discharges)



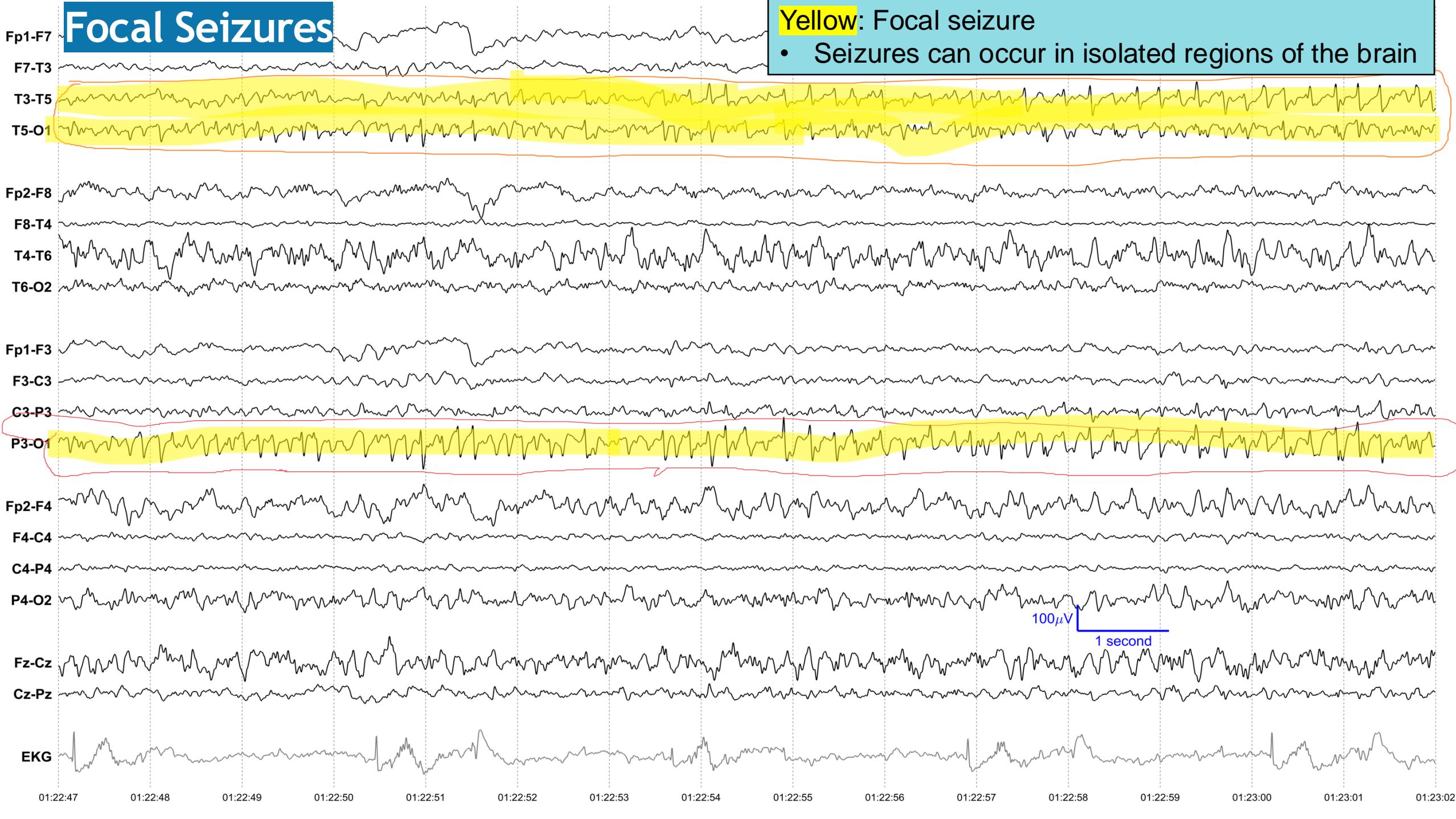
Seizures & BIRDs

- Focal seizure
- Generalized seizure
- BIRDs

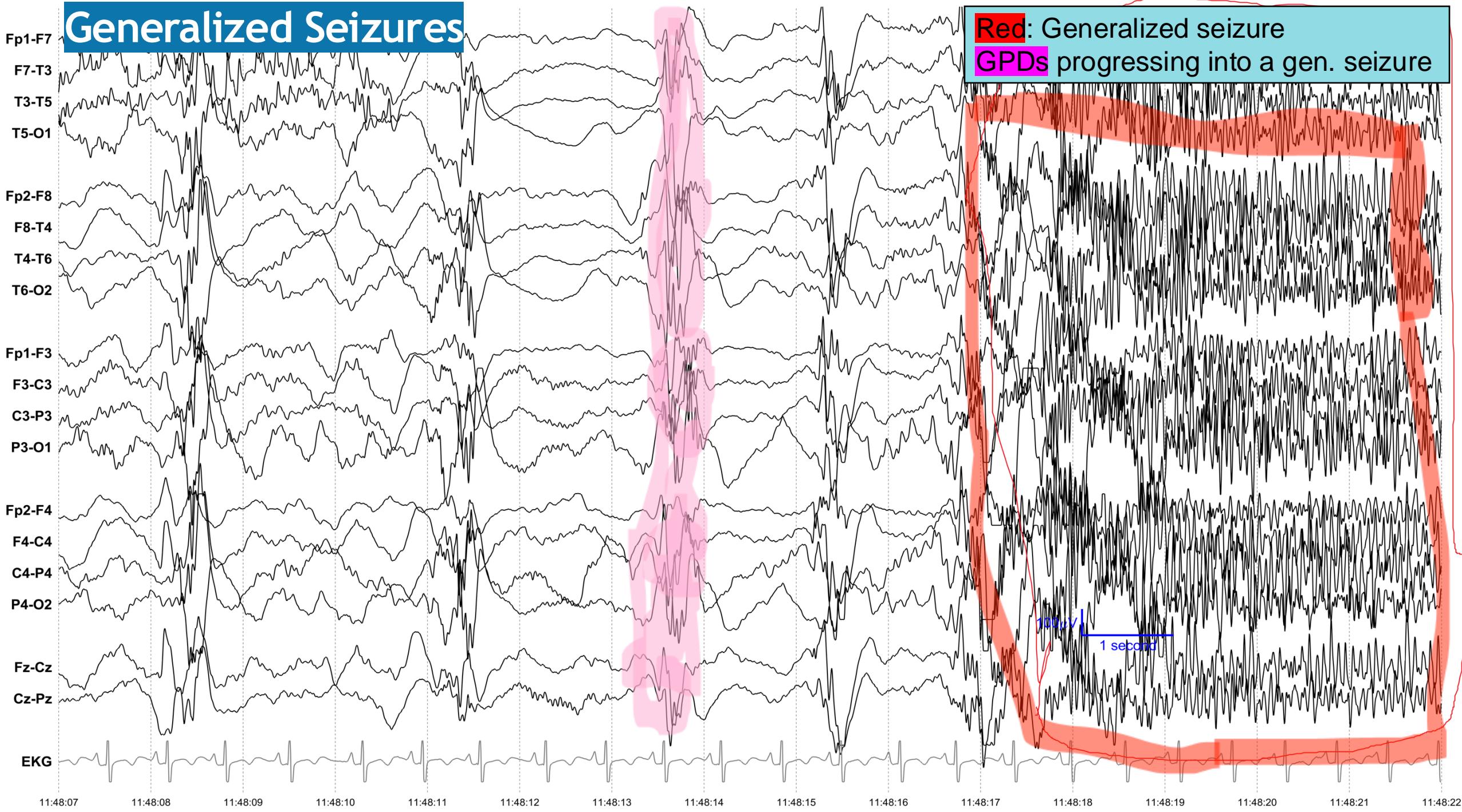
Focal Seizures

Yellow: Focal seizure

- Seizures can occur in isolated regions of the brain



Generalized Seizures



BIRDs (Brief Potentially Ictal Rhythmic Discharges)



Wrap-Up: Seizures, Rhythmic, and Periodic Patterns

GRDA (Generalized Rhythmic Delta Activity)

LPDs (Lateralized Periodic Discharges)

LRDA (Lateralized Rhythmic Delta Activity)

BIPDs (Bilateral Independent Periodic Discharges)

EDB (Extreme Delta Brush)

Seizure:
Focal

GPDs (Generalized Periodic Discharges) without triphasic morphology

Seizure:
Generalized

GPDs with triphasic morphology

BIRDs (Brief Potentially Ictal Rhythmic Discharges)