

## **LIST OF SUPPLEMENTAL DIGITAL CONTENT**

**Supplemental Digital Content 1:** Figure. Monopod's placement according to the standard 1-20 international system montage.

**Supplemental Digital Content 2:** Procedure of EEG installation and recording.

**Supplemental Digital Content 3:** Table. FOUR Score.

**Supplemental Digital Content 4:** Table. EEG Terminology.

**Supplemental Digital Content 5:** Figure. Flow Chart.

**Supplemental Digital Content 6:** Table. Extra neurological characteristics of patients at EEG recording.

**Supplemental Digital Content 7:** Table. Neurological characteristics of patients at EEG recording.

**Supplemental Digital Content 8:** Table. Comparison between trained intensivist and neurophysiologist of EEG interpretation.

**Supplemental Digital Content 9:** Figure. Distribution of the individuals Pearson coefficient or Cohen's kappa for the 22 pairs of neurophysiologist/EEG non-expert intensivist.

**Supplemental Digital Content 10:** Table. Individual comparison between intensivists and neurophysiologist for background activity's frequency.

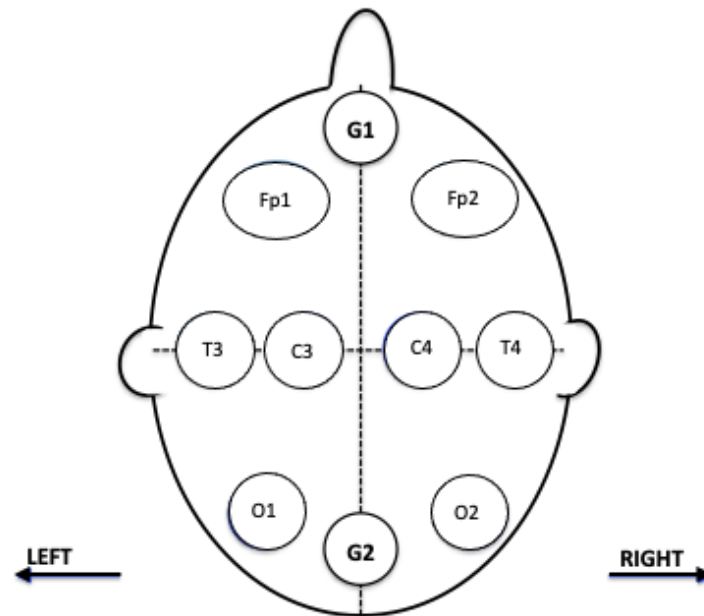
**Supplemental Digital Content 11:** Table. Individual comparison between intensivists and neurophysiologist for background continuity.

**Supplemental Digital Content 12:** Table. Individual comparison between intensivists and neurophysiologist for burst suppression.

**Supplemental Digital Content 13:** Table. Individual comparison between intensivists and neurophysiologist for isoelectric background.

**Supplemental Digital Content 14:** Table. Individual comparison between intensivists and neurophysiologist for background reactivity.

**Supplemental Digital Content 1, Figure.** Monopod's placement according to the standard 10-20 international system montage.



**Supplemental Digital Content 2,** Procedure of EEG installation and recording.

Monopods were used with conductive paste and maintained by an elastic cask. Recording was performed with EEG Micromed System PLUS Evolution® software, with electrocardiographic record. Impedance electrodes had to be less than 10 kΩ. Low and high frequency filters were respectively of 0.5 Hz and 50-70 Hz. During the 20 minutes EEG recording, auditory and noxious stimuli were performed and mentioned on the EEG recording: 4 auditory stimuli (clapping (twice) and calling out the patient's name (twice)) and 8 noxious stimuli (nail bed pressure upper and lower limb (right and left and twice)).

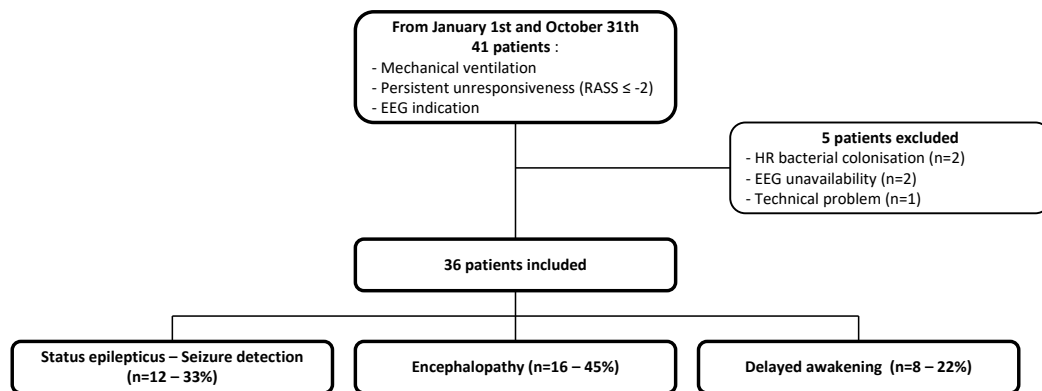
**Supplemental Digital Content 3, Table.** FOUR score (E. F. Wijdicks et al. Ann. Neurol. 58, 585-593 (2005))

Action			Score
Eye Response	Opens eyes, spontaneously, tracks, blinks to command		4
	Opens eyes, does not track or blink to command		3
	Eyes closed, open to loud voice		2
	Eyes closed, open to painful stimulation		1
	Eyes remain closed following painful stimulation		0
Motor Response	Obeys, makes sign, e.g., "thumbs up"		4
	Localises painful stimulus		3
	Flexes to painful stimulus		2
	Extends to painful stimulus		1
	Myoclonic status epilepticus		0
Brainstem Reflexes	<b>Pupillary reflex</b>	<b>Corneal reflex</b>	<b>Cough</b>
	Present	Present	Present
	1 pupil unreactive	Present	Present
	Absent	Present	
	Present	Absent	
	Absent	Absent	Present
	Absent	Absent	Absent
Respiratory Response	<b>Intubation</b>		
	No	Normal respiration	4
	No	Cheyne-Stokes respirations	3
	No	Irregular respirations	2
	No	Apnoeic	0
	Yes	Breathes above ventilator settings	1
	Yes	Breathes below ventilator settings	0

**Supplemental Digital Content 4, Table.** EEG terminology (L.J. Hirsch, et al – J Clin Neurophysiol 2021; 38: 1-29 and L.J. Hirsch, et al – J Clin Neurophysiol 2012; 30: 1-27)

EEG Background		
Symmetry		
	Symmetric	
	Mild asymmetry	Consistent asymmetry in voltage on an appropriate referential recording of < 50% or consistent asymmetry in frequency of 0.5 to 1 Hz
	Marked asymmetry	≥ 50% voltage or > 1 Hz frequency asymmetry
Continuity		
	Continuous	
	Discontinuous	A pattern of attenuation/suppression alternating with higher voltage activity, with 10% to 49% of the record consisting of attenuation or suppression
	Burst suppression	A pattern of attenuation/suppression alternating with higher voltage activity, with 50% to 99% of the record consisting of attenuation or suppression
	Suppression/attenuation	Entirety or near-entirety (>99%) of the record consists of either suppression (all < 10μV) or low voltage activity (all < 20 μV but not qualifying as suppression).
Reactivity		
		Change in cerebral EEG activity to stimulation: this may include change in voltage or frequency, including attenuation of activity.
Sleep patterns		
		K-complexes and spindles
Voltage		
	High	Most or all activity ≥ 150 μV in longitudinal bipolar with standard 10-20 electrodes (measured from peak to trough)
	Normal	
	Low	Most or all activity < 20 μV in longitudinal bipolar with standard 10-20 electrodes (measured from peak to trough), but not qualifying as suppression
	Suppressed	All activity < 10 μV
Sporadic epileptiform discharges		
	Spike	A transient, clearly distinguished from background activity, with pointed peak at a conventional time scale and duration from 20 to < 70 ms
	Sharp wave	A transient, clearly distinguished from background activity, with pointed peak at a conventional time scale and duration from 7° to 200 ms
Rhythmic and periodic patterns		
	Periodic	Repetition of a waveform with relatively uniform morphology and duration with a clearly discernible inter-discharge interval between consecutive waveforms and recurrence of the waveform at nearly regular intervals
	Discharges	Waveforms lasting < 0.5 seconds, regardless of number of phases, or waveforms ≥ 0.5 seconds with no more than 3 phases.
	Rhythmic	Repetition of a waveform with relatively uniform morphology and duration and without n interval between consecutive waveforms.
Beta band		
		Many rapid activities such as diffuse activities indicating benzodiazepine impregnation
Slow focus		
		Slower localized activity indicating underlying brain damage

Supplemental Digital Content 5, Figure. Flow Chart.



**Supplemental Digital Content 6, Table.** Extra neurological characteristics of patients at EEG recording.

Variable	All (n=36)
<b>SOFA score</b>	<b>9 [6-11]</b>
<b>Hemodynamic characteristics</b>	<b>13 (36%)</b>
SBP (mmHg)	118 [106-136]
DBP (mmHg)	64 [56-74]
MBP (mmHg)	83 [72-90]
HR (bpm)	80 [71-93]
Norepinephrine < 1mg/h	1 (3%)
Norepinephrine > 1mg/h or Dobutamine	6 (17%)
ECMO	5 (14%)
<b>Respiratory characteristics</b>	<b>13 (36%)</b>
SpO <sub>2</sub> (%)	100 [88-100]
RR (cycle per minute)	20 [18-26]
PaO <sub>2</sub> (mmHg)	86 [75 – 102]
PaCO <sub>2</sub> (mmHg)	37 [34-41]
Blood pH	7.5 [7.4-7.5]
<b>Renal characteristics</b>	<b>14 (39%)</b>
Blood creatinine (μmol/l)	79 [50-176]
Dialysis	11 (31%)
Body temperature (°C)	36.7 [36.2-37.3]
Glucose blood level (mmol/l)	7.3 [5.8 – 9.1]
Sodium level (mmol/l)	141 [140-145]

Values are expressed with median (interquartile) and with numbers (percentage).

Abbreviations: SBP: Systolic Blood Pressure; DBP: Diastolic Blood Pressure; MBP: Mean Blood Pressure; HR: Heart rate; ECMO: ExtraCorporeal Membrane Oxygenation; RR: Respiratory Rate; PaO<sub>2</sub>: arterial Pressure of oxygen; PaCO<sub>2</sub>: arterial Pressure of carbon dioxide.

**Supplemental Digital Content 7, Table.** Neurological characteristics of patients at EEG recording.

Variable	All (n=36)
<b>Last known GCS</b>	<b>4 [3-8]</b>
<b>GCS at EEG recording</b>	<b>4</b>
Eye GCS	0 [0-1]
Motor GCS	1 [1-4]
Motor response	0 (0)
Verbal GCS	1 [1-1]
 Focal neurologic sign before EEG	 10 (28%)
<b>Focal neurologic sign at EEG recording</b>	<b>6 (17%)</b>
Myoclonus before EEG	5 (14%)
<b>Myoclonus at EEG recording</b>	<b>5 (14%)</b>
 <b>Symmetric and reactive pupils</b>	 <b>31 (84%)</b>
Asymmetric pupils	2 (6%)
<b>Mydriasis</b>	<b>4 (11%)</b>
 <b>RASS score</b>	 <b>-4 [-5 - -3]</b>
<b>FOUR score</b>	<b>7 [4-9]</b>
<b>Eye FOUR</b>	<b>0 [0-1]</b>
Motor FOUR	0 [0-2]
Brainstem FOUR	4 [4-4]
Respiratory FOUR	1 [0-4]
 <b>Sedation at EEG recording</b>	 <b>21 (58%)</b>
Sedation 24 hours before EEG	24 (67%)
Sedation 48 hours before EEG	18 (50%)
Sedation antagonization	1 (3%)
Propofol	26 (72%)
Morphine or related	24 (67%)
Midazolam	6 (17%)
 <b>Antiepileptic drug</b>	 <b>14 (39%)</b>
Levetiracetam	11 (31%)
Valproate	2 (6%)
Lamotrigine	2 (6%)
Clobazam	5 (14%)
Clonazepam	3 (8%)
 <b>Antibiotics</b>	 <b>24 (67%)</b>
Known antibiotics overdose	4 (11%)
<b>Acyclovir</b>	<b>6 (17%)</b>
Known Acyclovir overdose	1 (3%)

Values are expressed with median (interquartile) and with numbers (percentage).

**Supplemental Digital Content 8, Table.** Comparison between trained intensivist and neurophysiologist of EEG interpretation

Variables All (n=36)	Neurophysiologist interpretation	Trained intensivist interpretation	Agreement	Cohen's kappa
Background asymmetry	1 (3%)	1 (3%)	100%	1
Beta bands	7 (19%)	4 (11%)	31/36 (86%)	0.47
Epileptic patterns	4 (11%)	4 (11%)	30/36 (83%)	0.16
Slow periodic discharges	0 (0)	1 (3%)	35/36 (97%)	
Slow focus	3 (8%)	0 (0)	33/36 (92%)	
Sleep patterns	0 (0)	0 (0)	100%	
<b>Burst suppression</b>	<b>1 (3%)</b>	<b>1 (3%)</b>	<b>100%</b>	<b>1</b>
Synek Classification			22/36 (61%)	0.77
I.	1 (3%)	1 (3%)		
II.	2 (3%)	11 (31%)		
III.	24 (6%)	13 (36%)		
IV.	4 (11%)	5 (14%)		
V.	5 (14%)	6 (17%)		
<b>Isoelectric background</b>	<b>5 (14%)</b>	<b>6 (17%)</b>	<b>35/36 (97%)</b>	<b>0.89</b>

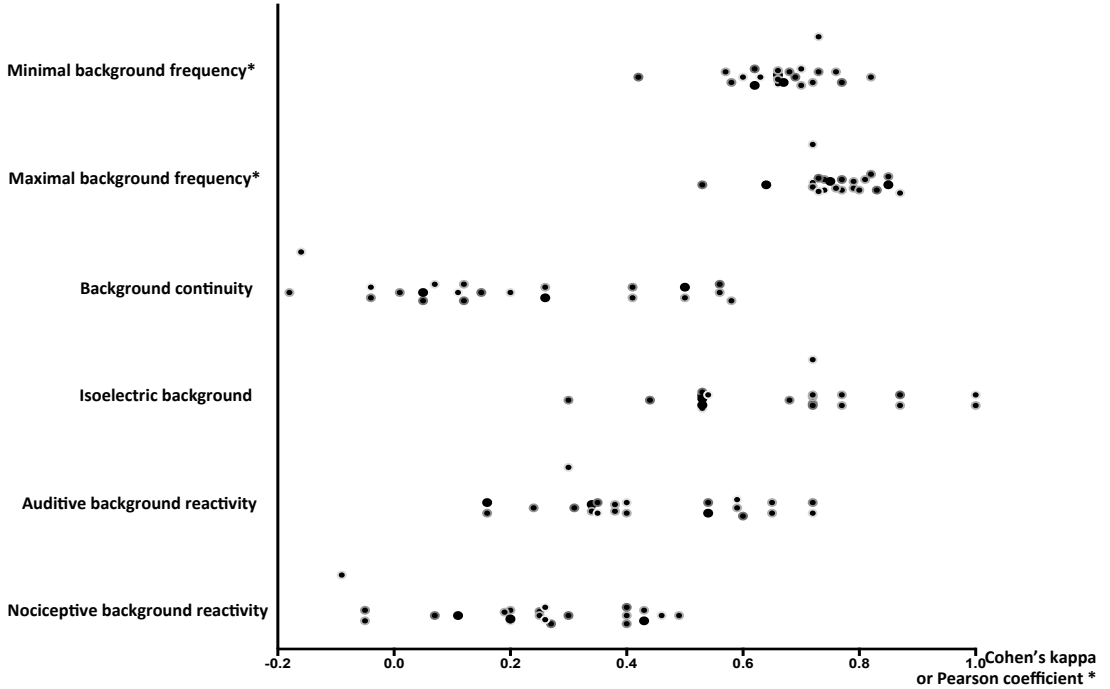
Values are expressed with median (interquartile) and with numbers (percentage).

\*Evaluation of agreement is made using Cohen's kappa coefficient for categorical variables.

**Correct Agreement: Cohen's kappa [0.61-1] - Moderate Agreement: Cohen's kappa [0.41-0.60] - Disagreement: Cohen's kappa  $\leq$  0.4**



**Supplemental Digital Content 9, Figure.** Distribution of the individuals Pearson coefficient or Cohen’s kappa for the 22 pairs of neurophysiologist/EEG non-expert intensivist.



**Supplemental Digital Content 10, Table.** Individual comparison between intensivists and neurophysiologist for **background activity's frequency**.

Minimum background activity's frequency	Median (range)	Agreement %	Pearson coefficient
Neurophysiologist	1 [1-2]	-	-
Trained Intensivist	1 [1-2]	94%	0.60
Intensivist n°1	3 [1-5]	67%	0.67
Intensivist n°2	6 [4-7]	22%	0.57
Intensivist n°3	4 [3-6]	31%	0.75
Intensivist n°4	5 [3-7]	31%	0.70
Intensivist n°5	3 [0-4]	78%	0.42
Intensivist n°6	3 [2-4]	75%	0.72
Intensivist n°7	4 [2-5]	44%	0.77
Intensivist n°8	5 [3-8]	33%	0.63
Intensivist n°9	4 [2-5]	53%	0.66
Intensivist n°10	5 [3-7]	33%	0.62
Intensivist n°11	3 [2-5]	72%	0.66
Intensivist n°12	3 [1-6]	58%	0.68
Intensivist n°13	2 [0-3]	89%	0.60
Intensivist n°14	3 [2-4]	61%	0.62
Intensivist n°15	4 [3-6]	42%	0.76
Intensivist n°16	4 [2-5]	56%	0.69
Intensivist n°17	5 [3-6]	36%	0.67
Intensivist n°18	4 [3-5]	56%	0.70
Intensivist n°19	4 [3-5]	56%	0.66
Intensivist n°20	3 [2-4]	75%	0.82
Intensivist n°21	3 [2-5]	64%	0.58
Intensivist n°22	2 [0-3]	86%	0.73
Maximum background activity's frequency	Median (range)	Agreement %	Pearson coefficient
Neurophysiologist	5 [4-6]	-	-
Trained Intensivist	5 [4-7]	89%	0.89
Intensivist n°1	5 [4-8]	89%	0.85
Intensivist n°2	7 [6-9]	56%	0.76
Intensivist n°3	6 [5-7]	81%	0.85
Intensivist n°4	7 [5-9]	25%	0.73
Intensivist n°5	6 [3-7]	67%	0.78
Intensivist n°6	6 [4-8]	75%	0.72
Intensivist n°7	6 [4-8]	75%	0.83
Intensivist n°8	6 [4-8]	58%	0.74
Intensivist n°9	6 [4-8]	75%	0.81
Intensivist n°10	7 [5-9]	50%	0.64
Intensivist n°11	5 [4-7]	83%	0.79
Intensivist n°12	6 [4-8]	69%	0.82
Intensivist n°13	6 [4-8]	86%	0.87
Intensivist n°14	5 [4-8]	53%	0.53
Intensivist n°15	6 [4-8]	67%	0.79
Intensivist n°16	6 [4-8]	72%	0.77
Intensivist n°17	7 [5-10]	56%	0.72
Intensivist n°18	5 [4-7]	72%	0.77
Intensivist n°19	5 [4-7]	81%	0.75
Intensivist n°20	5 [3-6]	89%	0.81
Intensivist n°21	7 [4-9]	53%	0.74
Intensivist n°22	3 [2-5]	72%	0.72

Values are expressed with median (interquartile) and with numbers (percentage).

<sup>§</sup>Evaluation of agreement is made using Cohen's kappa coefficient for categorical variables and using Pearson's correlation\* for linear variables.

Agreement for the background frequency was defined as the proportion of interpretation in which the frequency was equal or more or less than 2 Hz between the neurophysiologist and intensivists for each EEG.

**Correct Agreement: Pearson coefficient [0.8-1] - Moderate Agreement: Pearson coefficient [0.6-0.79] - Disagreement: Pearson coefficient <0.6**

**Supplemental Digital Content 11, Table.** Individual comparison between intensivists and neurophysiologist for **background continuity**.

	Continuous background	Agreement Continuous background	Discontinuous background	Agreement Discontinuous background	Total Agreement	Cohen's kappa
Neurophysiologist	28	-	8	-	-	-
Trained Intensivist	24	23/28 (82%)	12	7/8 (88%)	30/36 (83%)	0.59
Intensivist n°1	25	23/28 (82%)	11	6/8 (75%)	29/36 (81%)	0.5
Intensivist n°2	25	23/28 (82%)	11	6/8 (75%)	29/36 (81%)	0.5
Intensivist n°3	21	16/28 (57%)	15	3/8 (38%)	19/36 (53%)	-0.04
Intensivist n°4	28	23/28 (82%)	8	3/8 (38%)	26/36 (72%)	0.2
Intensivist n°5	27	22/28 (79%)	9	3/8 (38%)	25/36 (69%)	0.15
Intensivist n°6	30	24/28 (86%)	6	2/8 (25%)	26/36 (72%)	0.12
Intensivist n°7	30	24/28 (86%)	6	2/8 (25%)	26/36 (72%)	0.12
Intensivist n°8	26	21/28 (75%)	10	3/8 (38%)	24/36 (67%)	0.11
Intensivist n°9	29	26/28 (93%)	7	5/8 (63%)	31/36 (86%)	0.58
Intensivist n°10	20	16/28 (57%)	16	4/8 (50%)	20/36 (56%)	0.05
Intensivist n°11	26	24/28 (86%)	10	6/8 (75%)	30/36 (83%)	0.56
Intensivist n°12	26	23/28 (82%)	10	5/8 (63%)	28/36 (78%)	0.41
Intensivist n°13	29	23/28 (82%)	7	2/8 (25%)	25/36 (69%)	0.07
Intensivist n°14	26	24/28 (86%)	10	6/8 (75%)	30/36 (83%)	0.56
Intensivist n°15	29	25/28 (89%)	7	4/8 (50%)	29/36 (81%)	0.41
Intensivist n°16	20	16/28 (57%)	16	4/8 (50%)	20/36 (56%)	0.05
Intensivist n°17	21	16/28 (57%)	15	3/8 (38%)	19/36 (53%)	-0.04
Intensivist n°18	26	22/28 (79%)	10	4/8 (50%)	26/36 (72%)	0.26
Intensivist n°19	26	22/28 (79%)	10	4/8 (50%)	26/36 (72%)	0.26
Intensivist n°20	20	14/28 (50%)	16	2/8 (25%)	16/36 (44%)	-0.18
Intensivist n°21	14	11/28 (39%)	22	5/8 (63%)	16/36 (44%)	0.01
Intensivist n°22	21	15/28 (54%)	15	2/8 (25%)	17/36 (47%)	-0.16

Values are expressed with median (interquartile) and with numbers (percentage).

<sup>§</sup>Evaluation of agreement is made using Cohen's kappa coefficient for categorical variables and using Pearson's correlation\* for linear variables.

**Correct Agreement: Cohen's kappa [0.61-1] - Moderate Agreement: Cohen's kappa [0.41-0.60] - Disagreement: Cohen's kappa ≤ 0.4**

**Supplemental Digital Content 12, Table.** Individual comparison between intensivists and neurophysiologist for **burst suppression**.

	<b>Burst suppression</b>	<b>Agreement Burst suppression</b>	<b>No burst suppression</b>	<b>Agreement No burst suppression</b>	<b>Total Agreement</b>	<b>Cohen's kappa</b>
Neurophysiologist	1	-	35	-	-	-
Trained Intensivist	1	1/1 (100%)	35	35/35 (100%)	36/36 (100%)	1
Intensivist n°1	1	1/1 (100%)	35	35/35 (100%)	36/36 (100%)	1
Intensivist n°2	1	1/1 (100%)	35	35/35 (100%)	36/36 (100%)	1
Intensivist n°3	0	0/1 (0%)	36	35/35 (100%)	35/36 (97%)	-
Intensivist n°4	1	1/1 (100%)	35	35/35 (100%)	36/36 (100%)	1
Intensivist n°5	1	1/1 (100%)	35	35/35 (100%)	36/36 (100%)	1
Intensivist n°6	0	0/1 (0%)	36	35/35 (100%)	35/36 (97%)	-
Intensivist n°7	0	0/1 (0%)	36	35/35 (100%)	35/36 (97%)	-
Intensivist n°8	1	1/1 (100%)	35	35/35 (100%)	36/36 (100%)	1
Intensivist n°9	1	1/1 (100%)	35	35/35 (100%)	36/36 (100%)	1
Intensivist n°10	0	0/1 (0%)	36	35/35 (100%)	35/36 (97%)	-
Intensivist n°11	1	1/1 (100%)	35	35/35 (100%)	36/36 (100%)	1
Intensivist n°12	1	1/1 (100%)	35	35/35 (100%)	36/36 (100%)	1
Intensivist n°13	1	1/1 (100%)	35	35/35 (100%)	36/36 (100%)	1
Intensivist n°14	1	1/1 (100%)	35	35/35 (100%)	36/36 (100%)	1
Intensivist n°15	0	0/1 (0%)	36	35/35 (100%)	35/36 (97%)	-
Intensivist n°16	1	1/1 (100%)	35	35/35 (100%)	36/36 (100%)	1
Intensivist n°17	1	1/1 (100%)	35	35/35 (100%)	36/36 (100%)	1
Intensivist n°18	1	1/1 (100%)	35	35/35 (100%)	36/36 (100%)	1
Intensivist n°19	1	1/1 (100%)	35	35/35 (100%)	36/36 (100%)	1
Intensivist n°20	0	0/1 (0%)	36	35/35 (100%)	35/36 (97%)	-
Intensivist n°21	1	1/1 (100%)	35	35/35 (100%)	36/36 (100%)	1
Intensivist n°22	3	1/1 (100%)	33	33/35 (94%)	34/36 (94%)	0.48

Values are expressed with median (interquartile) and with numbers (percentage).

<sup>§</sup>Evaluation of agreement is made using Cohen's kappa coefficient for categorical variables.

**Correct Agreement: Cohen's kappa [0.61-1] - Moderate Agreement: Cohen's kappa [0.41-0.60] - Disagreement: Cohen's kappa ≤ 0.4**

**Supplemental Digital Content 13, Table.** Individual comparison between intensivists and neurophysiologist for isoelectric background.

	Isoelectric background	Agreement Isoelectric background	No isoelectric background	Agreement No isoelectric background	Total Agreement	Cohen's kappa
Neurophysiologist	5	-	31	-	-	-
Trained Intensivist	6	5/5 (100%)	30	30/31 (97%)	35/36 (97%)	0.89
Intensivist n°1	2	2/5 (40%)	34	31/31 (100%)	33/36 (92%)	0.53
Intensivist n°2	5	4/5 (80%)	31	30/31 (97%)	34/36 (94%)	0.77
Intensivist n°3	1	1/5 (20%)	35	31/31 (100%)	32/36 (89%)	0.3
Intensivist n°4	5	5/5 (100%)	31	31/31 (100%)	36/36 (100%)	1
Intensivist n°5	13	5/5 (100%)	23	23/31 (74%)	28/36 (78%)	0.44
Intensivist n°6	3	3/5 (60%)	33	31/31 (100%)	34/36 (94%)	0.72
Intensivist n°7	4	4/5 (80%)	32	31/31 (100%)	35/36 (97%)	0.87
Intensivist n°8	8	4/5 (80%)	28	27/31 (87%)	31/36 (86%)	0.54
Intensivist n°9	5	4/5 (80%)	31	30/31 (97%)	34/36 (94%)	0.77
Intensivist n°10	2	2/5 (40%)	34	31/31 (100%)	33/36 (92%)	0.53
Intensivist n°11	5	5/5 (100%)	31	31/31 (100%)	36/36 (100%)	1
Intensivist n°12	6	4/5 (80%)	30	29/31 (94%)	33/36 (92%)	0.68
Intensivist n°13	2	2/5 (40%)	34	31/31 (100%)	33/36 (92%)	0.53
Intensivist n°14	3	3/5 (60%)	33	31/31 (100%)	34/36 (94%)	0.72
Intensivist n°15	3	3/5 (60%)	33	31/31 (100%)	34/36 (94%)	0.72
Intensivist n°16	2	2/5 (40%)	34	31/31 (100%)	33/36 (92%)	0.53
Intensivist n°17	2	2/5 (40%)	34	31/31 (100%)	33/36 (92%)	0.53
Intensivist n°18	2	2/5 (40%)	34	31/31 (100%)	33/36 (92%)	0.53
Intensivist n°19	2	2/5 (40%)	34	31/31 (100%)	33/36 (92%)	0.53
Intensivist n°20	4	4/5 (80%)	32	31/31 (100%)	35/36 (97%)	0.87
Intensivist n°21	3	3/5 (60%)	33	31/31 (100%)	34/36 (94%)	0.72
Intensivist n°22	3	3/5 (60%)	33	31/31 (100%)	34/36 (94%)	0.72

Values are expressed with median (interquartile) and with numbers (percentage).

<sup>§</sup>Evaluation of agreement is made using Cohen's kappa coefficient for categorical variables.

**Correct Agreement: Cohen's kappa [0.61-1] - Moderate Agreement: Cohen's kappa [0.41-0.60] - Disagreement: Cohen's kappa ≤ 0.4**

**Supplemental Digital Content 14, Table.** Individual comparison between intensivists and neurophysiologist for **background reactivity**.

Background reactivity to auditory stimuli						
	Background reactivity	Agreement Background reactivity	No background reactivity	Agreement No background reactivity	Total Agreement	Cohen's kappa
Neurophysiologist	5	-	31	-	-	-
Trained Intensivist	13	5/5 (100%)	23	23/31 (74%)	28/36 (78%)	0.44
Intensivist n°1	8	2/5 (40%)	28	25/31 (81%)	27/36 (75%)	0.16
Intensivist n°2	14	5/5 (100%)	22	22/31 (71%)	27/36 (75%)	0.4
Intensivist n°3	8	5/5 (100%)	28	28/31 (90%)	33/36 (92%)	0.72
Intensivist n°4	8	5/5 (100%)	28	28/31 (90%)	33/36 (92%)	0.72
Intensivist n°5	8	3/5 (60%)	28	26/31 (84%)	29/36 (81%)	0.35
Intensivist n°6	10	5/5 (100%)	26	26/31 (84%)	31/36 (86%)	0.59
Intensivist n°7	7	4/5 (80%)	29	28/31 (90%)	32/36 (89%)	0.6
Intensivist n°8	10	5/5 (100%)	26	26/31 (84%)	31/36 (86%)	0.59
Intensivist n°9	9	5/5 (100%)	27	27/31 (87%)	32/36 (89%)	0.65
Intensivist n°10	8	4/5 (80%)	28	27/31 (87%)	31/36 (86%)	0.54
Intensivist n°11	9	5/5 (100%)	27	27/31 (87%)	32/36 (89%)	0.65
Intensivist n°12	3	1/5 (20%)	33	29/31 (94%)	30/36 (83%)	0.16
Intensivist n°13	7	3/5 (60%)	29	27/31 (87%)	30/36 (83%)	0.4
Intensivist n°14	8	4/5 (80%)	28	27/31 (87%)	31/36 (86%)	0.54
Intensivist n°15	11	4/5 (80%)	25	24/31 (77%)	28/36 (78%)	0.38
Intensivist n°16	13	4/5 (80%)	23	22/31 (71%)	26/36 (72%)	0.31
Intensivist n°17	8	3/5 (60%)	28	26/31 (84%)	29/36 (81%)	0.35
Intensivist n°18	12	4/5 (80%)	24	23/31 (74%)	27/36 (75%)	0.34
Intensivist n°19	12	4/5 (80%)	24	23/31 (74%)	27/36 (75%)	0.34
Intensivist n°20	11	4/5 (80%)	25	24/31 (77%)	28/36 (78%)	0.38
Intensivist n°21	15	4/5 (80%)	21	20/31 (65%)	24/36 (67%)	0.24
Intensivist n°22	5	2/5 (40%)	31	28/31 (90%)	30/36 (83%)	0.3

Background reactivity to nociceptive stimuli						
	Background reactivity	Agreement Background reactivity	No background reactivity	Agreement No background reactivity	Total Agreement	Cohen's kappa
Neurophysiologist	5	-	31	-	-	-
Trained Intensivist	15	5/5 (100%)	21	21/31 (68%)	26/36 (72%)	0.37
Intensivist n°1	7	2/5 (40%)	29	26/31 (84%)	28/36 (78%)	0.2
Intensivist n°2	17	4/5 (80%)	19	18/31 (58%)	22/36 (61%)	0.19
Intensivist n°3	7	3/5 (60%)	29	27/31 (87%)	30/36 (83%)	0.4
Intensivist n°4	7	2/5 (40%)	29	26/31 (84%)	28/36 (78%)	0.2
Intensivist n°5	7	3/5 (60%)	29	27/31 (87%)	30/36 (83%)	0.4
Intensivist n°6	7	3/5 (60%)	29	27/31 (87%)	30/36 (83%)	0.4
Intensivist n°7	5	2/5 (40%)	31	28/31 (90%)	30/36 (83%)	0.3
Intensivist n°8	10	3/5 (60%)	26	24/31 (77%)	27/36 (75%)	0.26
Intensivist n°9	12	5/5 (100%)	24	24/31 (77%)	29/36 (81%)	0.49
Intensivist n°10	4	1/5 (20%)	32	28/31 (90%)	29/36 (81%)	0.11
Intensivist n°11	1	0/5 (0%)	35	30/31 (97%)	30/36 (83%)	-0.05
Intensivist n°12	1	0/5 (0%)	35	30/31 (97%)	30/36 (83%)	-0.05
Intensivist n°13	6	3/5 (60%)	30	28/31 (90%)	31/36 (86%)	0.46
Intensivist n°14	5	1/5 (20%)	31	27/31 (87%)	28/36 (78%)	0.07
Intensivist n°15	7	2/5 (40%)	29	26/31 (84%)	28/36 (78%)	0.2
Intensivist n°16	14	4/5 (80%)	22	21/31 (68%)	25/36 (69%)	0.27
Intensivist n°17	10	3/5 (60%)	26	24/31 (77%)	27/36 (75%)	0.26
Intensivist n°18	10	4/5 (80%)	26	25/31 (81%)	29/36 (81%)	0.43
Intensivist n°19	10	4/5 (80%)	26	25/31 (81%)	29/36 (81%)	0.43
Intensivist n°20	6	2/5 (40%)	30	27/31 (87%)	29/36 (81%)	0.25
Intensivist n°21	6	2/5 (40%)	30	27/31 (87%)	29/36 (81%)	0.25
Intensivist n°22	2	0/5 (0%)	34	29/31 (94%)	29/36 (81%)	-0.09

Values are expressed with median (interquartile) and with numbers (percentage).

<sup>§</sup>Evaluation of agreement is made using Cohen's kappa coefficient for categorical variables.

**Correct Agreement: Cohen's kappa [0.61-1] - Moderate Agreement: Cohen's kappa [0.41-0.60] - Disagreement: Cohen's kappa ≤ 0.4**

**Supplemental Digital Content 15, Figure.** EEG of 69 years woman admitted in ICU for an epilepticus status secondary to herpetic meningo-encephalitis. **Delay between the real stimulation and the note in the sheet changed reactivity background interpretation.**

