Presented at American Epilepsy Society 2017, Washington DC
Special Interest Group: EEG education

University Hospitals
Rainbow Babies & Children's Hospital

EEG /Epilepsy Course
UH Hospitals, Cleveland, OH

Jun Park, MD, FAES

Course director

Associate professor, Pediatrics & Neurology

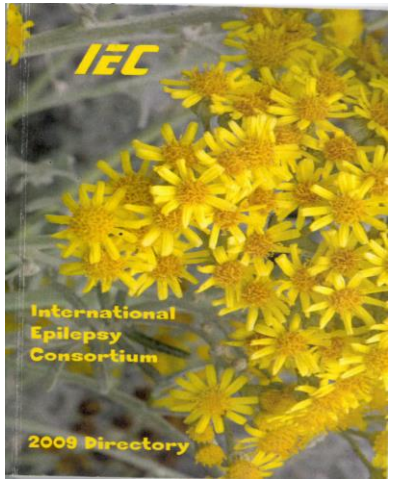
EEG/Epilepsy Course - History

- Founding director: Hans Lüders, MD PhD
- First course: 1979
- Emphasis of the course: EEG, seizure semiology, epileptic disorders
- International Epilepsy Consortium (*IEC*)
  - **Alumni**: Elaine Wyllie, Jaynant Acharya, Selim Benbadis, William Bingaman, Blaise Bourgeois, Richard Burgess, Beate Diehl, Ajay Gupta, Hajo Hamer, Akio Ikeda, Lara Emile Jehi, Andres Kanner, Prakash Kotagal, Deepak Lachhwani, Samden Lhatoo, Imad Najm, Soheyl Noachtar, Felix Rosenow, Norman So, Charles Szabo, Andreas Schulze-Bonhage, Ronald Leser, Aloi Ebner, Hans Holthausen, Tobias Loddenkemper…

Dear Colleagues:

This booklet provides basic demographic information of epileptologists I had an opportunity to train either as clinical or research fellows and are now members of the International Epilepsy Consortium (IEC). I hope that this information will enhance communication between members of the IEC and lead to a closer interaction and collaboration amongst you.

Hans O. Lüders



Course Participants

- Neurology residents:
  - 3rd year
  - 6 residents per course; 12/year

- Clinical neurophysiology fellows
- Epilepsy fellows
- EEG technologists
- Epileptologists (US, international)
- Neurologists-adult and child (US, international)
- Functional neurosurgeons (US, international)
- Epilepsy Research Scholar candidates

EEG/Epilepsy Course overview

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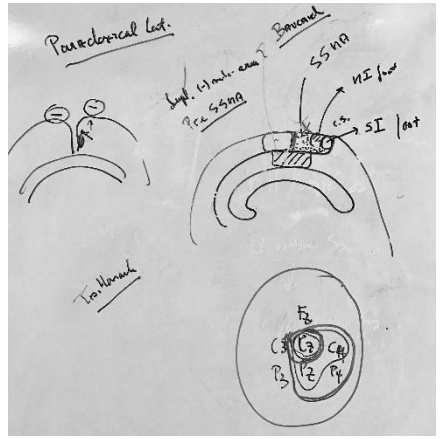
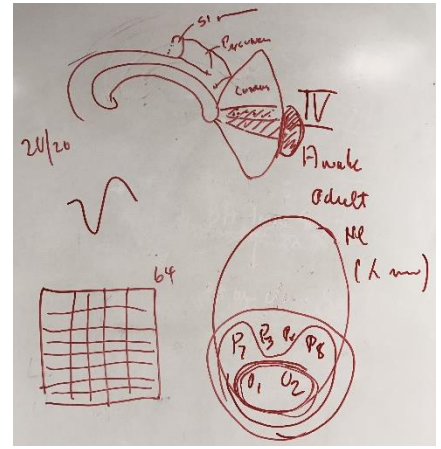
- Winter and Summer, yearly
- Class size: 25-30
- Duration of course: 8 weeks
- Hours: 8-3:30
- Midterm exam
- Final exam

- Feedbacks, verbal and written:
  - Homework:
    - EEG unknowns
    - Routine EEG on CD

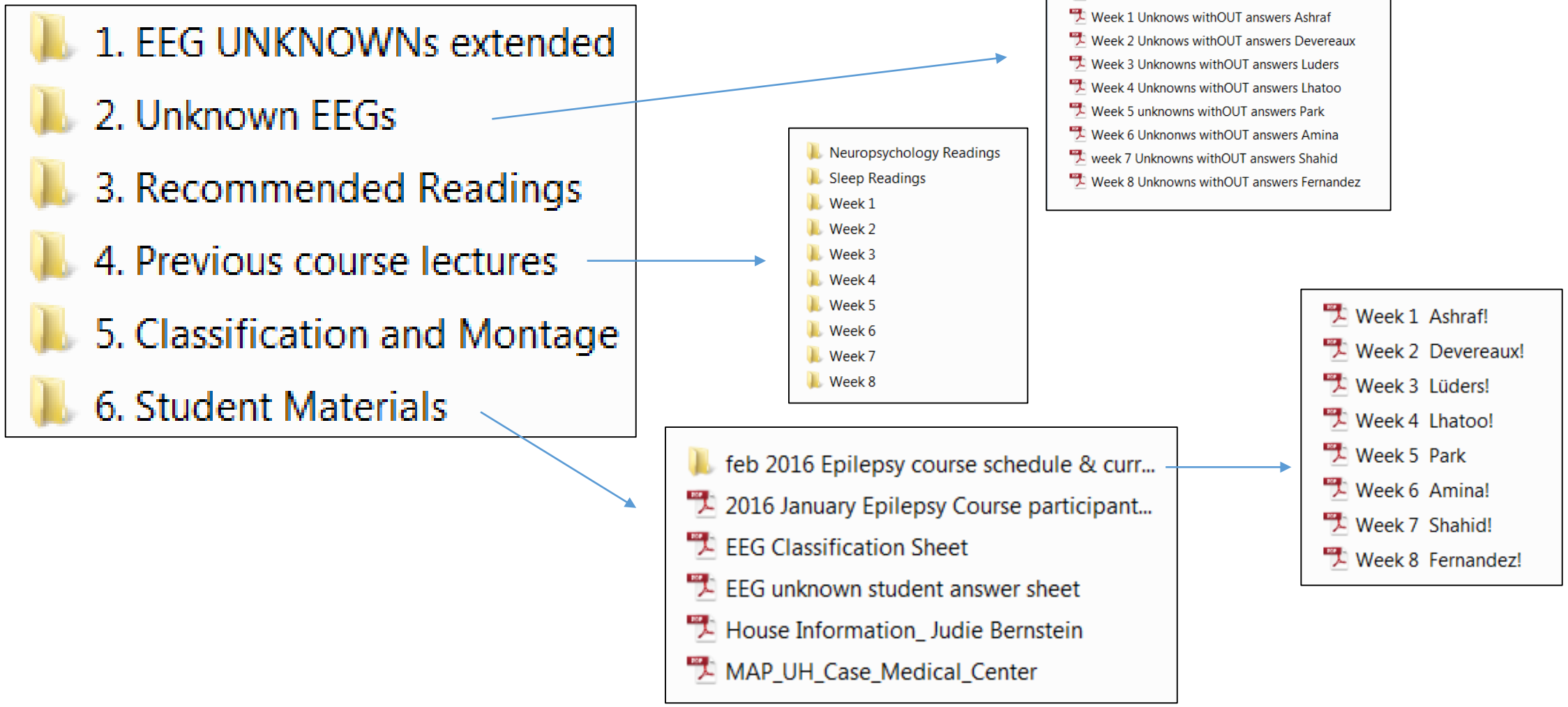
Didactics Overview

- *Daily* homework discussions: EEG unknowns (40 +40)
- *Daily* routine EEG reading discussions (80)
- Tuesday morning conference: Presented by a clinical fellow; moderated by Dr. Lüders
  - "EEG unknowns" followed by 20 min review of a seizure type.
  - "EEG seizure analysis" followed by 20 min review of a seizure type.
- Thursday morning conference: Presented by a clinical fellow; moderated by Dr. Lüders
  - "Video seizure semiology" & "EEG topic"
- AED Case Study: Wednesday AM
- Epilepsy surgery conference weekly





Master Folder Access



5. Classification and Montage

EEG Classification
Normal
Abnormal I
Abnormal II
Abnormal III
Technically difficult
Technically unsatisfactory

State of Consciousness
Awake
Awake and Sleep
Sleep
Lethargy
Stupor
Coma

Age
Newborn
0-1 year
1-4 years
4-8 years
8-20 years
Adult

EEG Finding	EEG Finding
Normal	Normal Variant
Background Slow	Dysmature
Intermittent Slow*	Electrocerebral Inactivity*
Continuous Slow*	Background Suppression*
Spikes*	Paroxysmal Event
Sharp Waves*	EEG Finding
BFEDCh*	Alpha Coma
Spike-and-slow wave*	Spindle Coma
3 Hz Spike-and-slow wave*	Beta Coma
Slow Spike-and-slow wave*	Theta Coma
Polyspikes*	Delta Coma
Hypsarrhythmia*	Alpha Stupor
Photoparoxysmal Resp.*	Spindle Stupor
EEG Seizure Pattern*	Beta Stupor
EEG Status Pattern*	Theta Stupor
Excessive Fast	Delta Stupor
Asymmetry	
Sleep-onset REM	
Periodic Pattern *	
Triphasic Waves*	
PLEDs*	
Burst Suppression*	

**EEG localization must be defined for these EEG Findings

Atlas and Classification of Electroencephalography
Hans O. Luders, MD, PhD, Soheyl Noachtar, MD

Background slow *(based on posterior dominant rhythm - PDR)*	**Adult**	**Child**	
	7-8Hz - *Abnormal I*	< 5Hz at 1yr	
	< 7Hz - *Abnormal II*	< 6Hz at 4yrs	
		< 7Hz at 5yrs	
Intermittent slow	**Generalized**	**Localized**	
	Abnormal I	*Abnormal II*	
Continuous slow *(> 80% of EEG)*	**Continuous slow with PDR**	**Continuous slow without PDR**	**Localized continuous slow**
	Classify based on PDR	*Abnormal III*	*Abnormal III*
Photic driving	**Epileptiform discharges limited to occipital region and strictly time-locked with the stimulus**		
	Normal		
Photoparoxysmal responses	**Posterior dominant responses that are not time-locked with the stimulus**	**Generalized photoparoxysmal responses that are not self-sustained (whether time locked or not)**	**Self-sustained photoparosysmal discharges that continue even after the end of the photic stimulus**
	Abnormal I	*Abnormal I*	*Abnormal III*
Epileptiform discharges	*Abnormal III*		
Benign epileptiform discharges of childhood	*Abnormal III*		
Seizue pattern	*Abnormal III*		
Excessive fast activity (>50uV)	*Abnormal I*		
Asymmetry (>50% difference)	*Abnormal II*		
Periodic pattern	*Abnormal III*		
Triphasic waves	*Abnormal III*		
PLEDs	*Abnormal III*		
Burst suppression	*Abnormal III*		
Background Suppression	*Abnormal III*		
Stupor	*Abnormal III*		
Coma (all types)	*Abnormal III*		
Electrocerebral inactivity	*Abnormal III*		

5. Classification and Montage

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Channel	Run 1	Run 2	Run 3	Run 4	Run 5	Run 6
1	Fp1 - F7	Fp1 - A1	Fp1 - F7	Fp1 - Cz	F7 - F3	Fp1 - F7
2	F7 - T7	F7 - A1	Fp2 - F8	Fp2 - Cz	F3 - Fz	F7 - FT9
3	T7 - P7	T7 - A1	F7 - T7	F7 - Cz	Fz - F4	FT9 - T7
4	P7 - O1	P7 - A1	F8 - T8	F8 - Cz	F4 - F8	T7 - P7
5	Fp2 - F8	Fp2 - A2	T7 - P7	T7 - Cz	A1 - T7	P7 - O1
6	F8 - T8	F8 - A2	T8 - P8	T8 - Cz	T7 - C3	Fp2 - F8
7	T8 - P8	T8 - A2	P7-O1	P7 - Cz	C3 - Cz	F8 - FT10
8	P8 - O2	P8 - A2	P8 - O2	P8 - Cz	Cz - C4	FT10 - T8
9	Fp1 - F3	F3 - A1	FP1 - F3	F3 - Cz	C4 - T8	T8 - P8
10	F3 - C3	C3 - A1	FP2 - F4	F4 - Cz	T8 - A2	P8 - O2
11	C3 - P3	P3 - A1	F3 - C3	C3 - Cz	P7 - P3	FT9 - FT10
12	P3 - O1	O1 - A1	F4 - C4	C4 - Cz	P3 - Pz	A1 - A2
13	Fp2 - F4	F4 - A2	C3 - P3	P3 - Cz	Pz - P4	Fp1 - F3
14	F4 - C4	C4 - A2	C4 - P4	P4 - Cz	P4 - P8	F3 - C3
15	C4 - P4	P4 - A2	P3 - O1	O1 - Cz	Fp1 - A1	C3 - P3
16	P4 - O2	O2 - A2	P4 - O2	O2 - Cz	Fp2 - A2	Fp2 - F4
17	Fz - Cz	Fz - A2	Fz - Cz	FT9 - Cz	O1 - A1	F4 - C4
18	Cz - Pz	Cz - A2	Cz - Pz	FT10 - Cz	O2 - A2	C4 - P4
19	EKG	Pz - A2	EKG	A1 - Cz	EKG	EKG
20		EKG		A2 - Cz		
21				EKG		

7/2/2010

5. Classification and Montage

Seizure Semiology Classification - Teaching Table

Hans Lüders, MD PhD

AURA*
- Auditory Aura *
- Autonomic Aura
  - Abdominal Aura
    - Choking Aura
  - Diaphoretic Aura
  - Dipsosic Aura
  - Pilomotor Aura*
  - Sialorrheic Aura
  - Tachycardic Aura
  - Urinary Aura
  - Vasomotor Aura *
- Gustatory Aura
- Olfactory Aura
- Psychic Aura
  - Affective Aura
    - Pleasure Aura
      - Ecstasy Aura
      - Religious Aura
      - Sexual Aura
    - Unpleasant Aura
      - Anger Aura
      - Depression Aura
      - Embarrassment Aura
      - Fear Aura
      - Guilt Aura
  - Cognitive Aura
  - Experiential Aura
  - Familiarity Aura
    - Deja-vu Aura
    - Jamais-vu Aura
  - Illusionary Aura
- Somatosensory Aura*
- Vestibular Aura
- Visual Aura*
  - Ictal blindness*

AUTONOMIC SEIZURE*
- Abdominal Seizure
- Anisocoric Seizure*
- Apneic Seizure
- Bradycardic Seizure
- Emetic Seizure
- Fecal Incontinent Seizure
- Hippus Seizure
- Hyperhydrotic Seizure*
- Hypertensive Seizure
- Hyperventilation Seizure
- Lacrimatory Seizure
- Pilomotor Seizure*
- Sexual Seizure
- Sialorrheic Seizure
- Tachycardic Seizure
- Urinary Seizure
- Vasomotor Seizure*

DISCOGNITIVE SEIZURE
- Amnestic Seizure
- Aphasic Seizure
- Apraxic Seizure
- Dialeptic Seizure

MOTOR SEIZURE*

SIMPLE MOTOR SEIZURE*
- Clonic Seizure*
- Epileptic Spasm*
- Myoclonic Seizure*
- Nystagmoid Seizure*
- Tonic Seizure*
- Tonic-clonic Seizure*
- Versive Seizure*
- Vocalization Seizure

COMPLEX MOTOR SEIZURE
- Alien limb Seizure
- Automotor Seizure
- Dacrystic Seizure
- Gelastic Seizure
- Hypermotor Seizure
- Emotional hypermotor Seizure
- Kissing Seizure
- Singing Seizure
- Spitting Seizure
- Verbalization Seizure

SPECIAL SEIZURES*
- Astatic Seizures
- Atonic Seizures*
- Fear Facies Seizure
- Hypnopompic Seizure
- Hypomotor Seizure
- Negative Myoclonic Seizure*
- Water Drinking Seizure

LATERALIZING SIGNS*
- Automotor Seizure with no Dialepsis
- Early Head Deviation*
- Figure of 4*
- Ictal Dystonia*
- Ictal Speech
- Ictal Unilateral Automatisms*
- Ictal Unilateral Blinking*
- Immediate Postictal Speech
- M2e Sign*
- Paradoxical Clonic Seizure*
- Paradoxical Versive Seizure*
- Postictal Aphasia
- Postictal Hemianopsia*
- Postictal Hemineglect*
- Postictal Hemiparesis*
- Postictal Nose Wiping*
- Unilateral Pupillary Dilatation*

DIAGNOSTIC SIGNS
- Body Turning Along Horizontal Body Axis
- Ictal Blinking
- Ictal Pouting
- Ictal Tongue Biting
- Forceful Ictal Eye Closure
- Forceful Ictal Mouth Closure
- Postictal Apraxia
- Postictal Blindness
- Postictal Bulimia
- Postictal Headache
- Postictal Psychosis
- Postictal Stertorous Breathing
- Postictal Urinary Incontinence

In the semiological classification AURAS,AUTONOMIC SEIZURES,DYSCOGNICITVE SEIZURES, MOTOR SEIZURES AND SPECIAL SEIZURES are considered as "seizure components" and each seizure consist either of a single seizure component or a sequence of seizure components linked by arrows.
Example: Psychic aura → Left hand clonic seizure→ Generalized tonic-clonic seizure

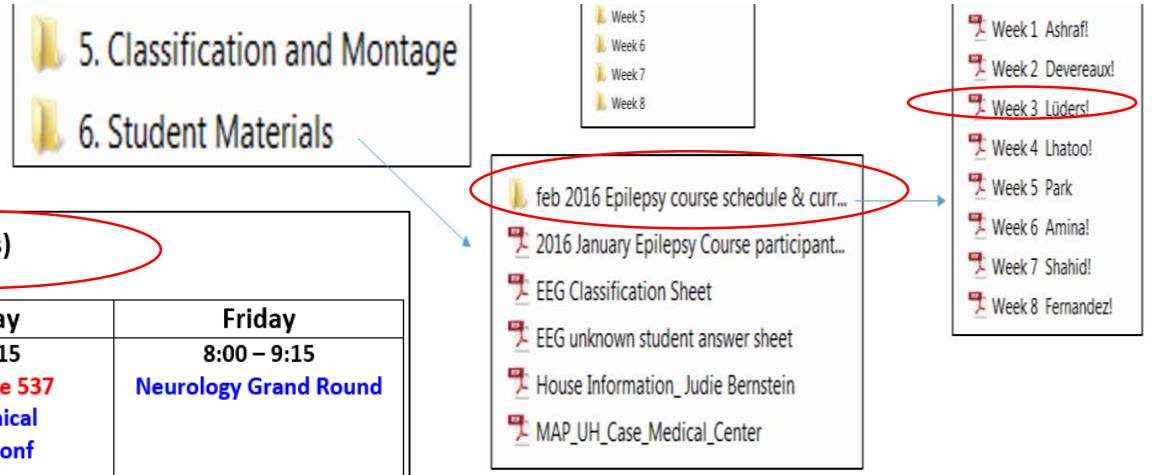
LATERALIZING SIGNS and DIAGNOSTIC SIGNS are not seizure components. They are added at the end of the classification as "additional signs"
Example: Psychic aura → Left hand clonic seizure→ Generalized tonic-clonic seizure
Additional signs: Right paradoxical clonic seizure
Left postictal hemiplegia
Ictal tongue biting

In the classification on the left side of this page the asterisk (*) after a seizure component means that it can be modified by a somatotopic modifier.
Example: left arm clonic seizure
Seizure components without an asterisk should not be modified by a somatotopic component.
Example: Automotor seizure

Seizures mainly characterized by dialepsis are classified as dialeptic seizures. In addition, in a seizure sequence the seizure component during which dialepsis occurs is identified by adding "(D)" after the corresponding component.
Example: Fear aura → automotor seizure (D)→ generalized clonic seizure

Seizure frequency is defined by adding 1 or more asterisk to a seizure component and indicating the frequency that component(s) occurs.
Example: Fear aura*→ Automotor seizure(D) → Generalized clonic seizure**
Frequency: * 2-5/day ** l/year

6. Student Materials



***Week 3. July 24 – July 28, 2016 (Dr. Lüders)**

Monday	Tuesday	Wednesday	Thursday	Friday
8:00 – 9:15 Epilepsy Grand Round	8:00 – 9:15 Hanna House 537 Fellow EEG Conference Dr. Hans Lüders	8:00 – 9:15 Bolwell 5198-5199 AED Case Study Dr. Hans Lüders	8:00 – 9:15 Hanna House 537 Fellow Clinical Epilepsy Conf Dr. Hans Lüders	8:00 – 9:15 Neurology Grand Round
9:30 – 11:00 Bolwell 5198-5199 Dr. Hans Lüders General Epileptology Principles	9:30 – 11:00 Bolwell 5198-5199 Dr. Hans Lüders Classification Paroxysmal Events Epileptic Auras	9:15 – 11:00 Bolwell 5198-5199 Dr. Hans Lüders Dialeptic Seizures Automotor Seizures Simple Motor Seizures	9:30 – 11:00 Bolwell 5198-5199 Dr. Hans Lüders Complex Motor Seizures Special Seizures Somatotopic Modifiers	9:30 – 11:00 Bolwell 5198-5199 Dr. Hans Lüders Lateralizing Signs
11:00 – 11:50 EEG Discussion Dr. Lüders	11:00 – 11:50 EEG Discussion Dr. Lüders	11:00 – 11:50 EEG Discussion Dr. Lüders	11:00 – 11:50 EEG Discussion Dr. Lüders	11:00 – 11:50 EEG Discussion Dr. Lüders
2:30 – 3:30 Bolwell 5198-5199 EEG Reading Dr. Lüders	2:30 – 3:30 Bolwell 5198-5199 EEG Reading Dr. Lüders	2:30 – 3:30 Bolwell 5198-5199 EEG Reading Dr. Lüders	3:30 – 3:30 Hanna House 537 Epilepsy Case Conference	2:30 – 3:30 Bolwell 5198-5199 EEG Reading Dr. Lüders

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6. Student Materials

EEG unknown answer sheet

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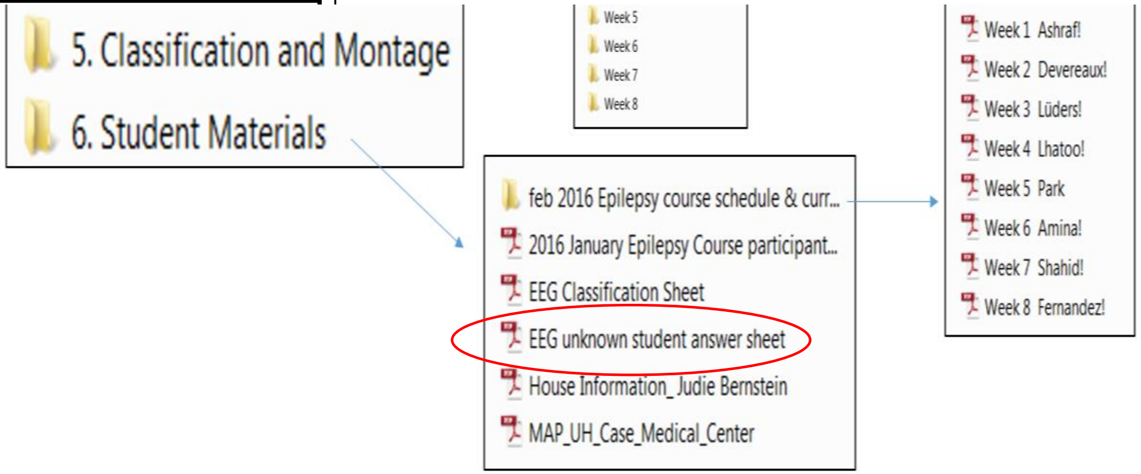
Name ____________________ Date __________

Record #	Age	Montage	Level of Consciousness	Artifacts / Normal Variants	EEG Classification	Clinical Interpretatoin
	Birth	M1	awake			
	0 to 1	M2	drowsy			
	1 to 3	M3	sleep (II-IV)			
	3 to 7	M4	REM sleep			
	7 to 12	M5	lethargy			
	13 to 18	M6	stupor			
	18 to 60		coma			
	over 60					
	Birth	M1	awake			
	0 to 1	M2	drowsy			
	1 to 3	M3	sleep (II-IV)			
	3 to 7	M4	REM sleep			
	7 to 12	M5	lethargy			
	13 to 18	M6	stupor			
	18 to 60		coma			
	over 60					
	Birth	M1	awake			
	0 to 1	M2	drowsy			
	1 to 3	M3	sleep (II-IV)			
	3 to 7	M4	REM sleep			
	7 to 12	M5	lethargy			
	13 to 18	M6	stupor			
	18 to 60		coma			
	over 60					
	Birth	M1	awake			
	0 to 1	M2	drowsy			
	1 to 3	M3	sleep (II-IV)			
	3 to 7	M4	REM sleep			
	7 to 12	M5	lethargy			
	13 to 18	M6	stupor			
	18 to 60		coma			
	over 60					
	Birth	M1	awake			
	0 to 1	M2	drowsy			
	1 to 3	M3	sleep (II-IV)			
	3 to 7	M4	REM sleep			
	7 to 12	M5	lethargy			
	13 to 18	M6	stupor			
	18 to 60		coma			
	over 60					



1. EEG UNKNOWNs extended :40 Routine EEGs

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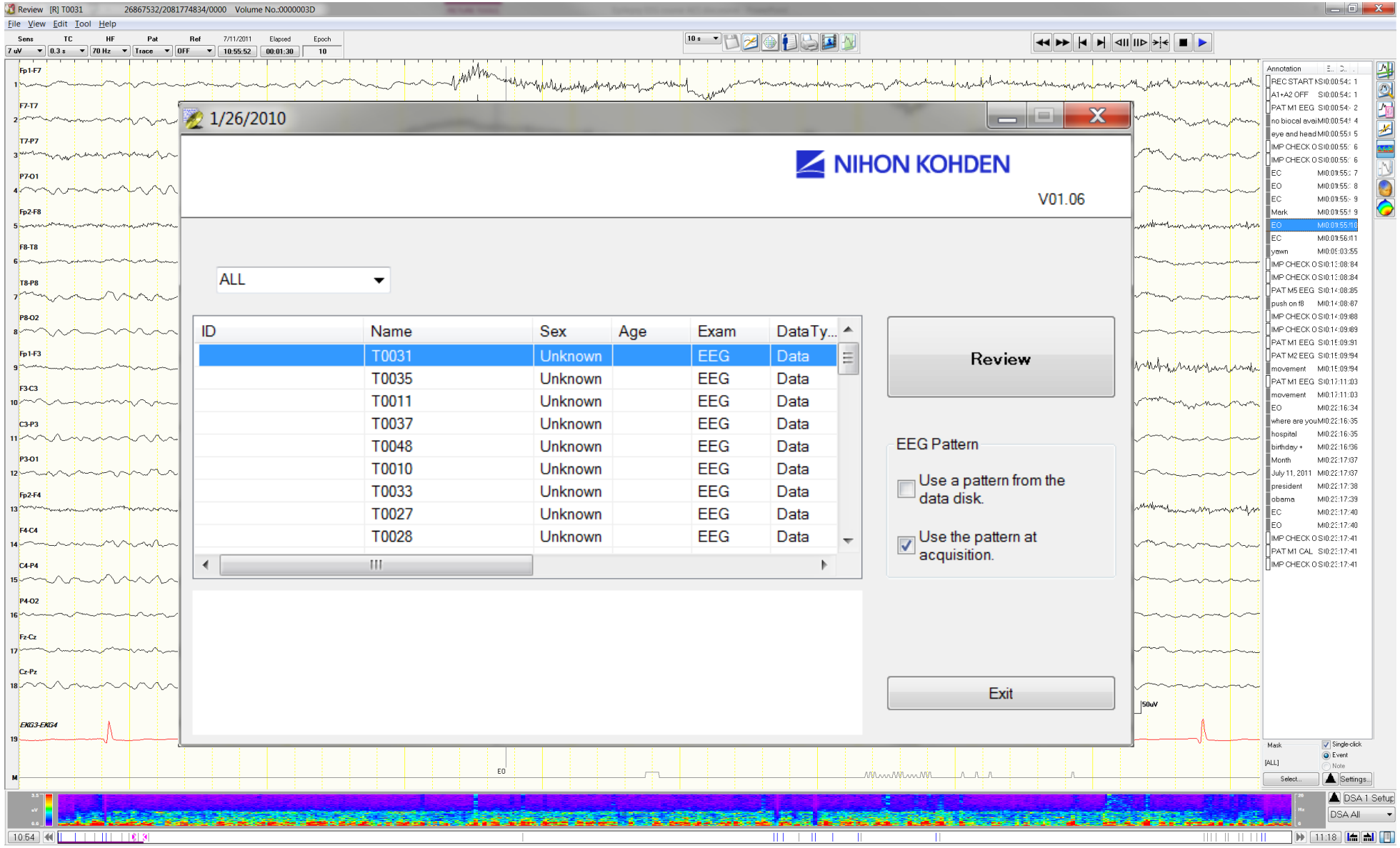

EEG reporting system-BLANK

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ELECTROENCEPHALOGRAM TEACHING FILE

Your Name	
Study Number	T001
EEG Classification	Normal
State of consciousness	Awake
Age	Newborn
Background Activity	

Normal
Abnormal I
Abnormal II
Abnormal III
Technically Difficult
Technically Unsatisfactory

Awake
Awake and Sleep
Sleep
Lethargy
Stupor
Coma

Newborn
0-1 Yrs
1-4 Yrs
4-8 Yrs
8-20 Yrs
Adult

1) Normal

EEG Classification 1) Normal
Distribution
Distribution (details)
Amount
Comments

Impression

EEG Findings

How many findings do you wish to enter? 1

EDIT DESCRIPTION OF EEG FIND

EEG Finding	Normal Increased Amplitude Decreased Amplitude
Distribution	Generalized ☐ L R Hemisphere ☐ ☐ Frontal ☐ ☐ Central ☐ ☐ Parietal ☐ ☐ Occipital ☐ ☐ Temporal ☐ ☐ Anterior head regions ☐ ☐ Posterior head regions ☐ ☐ Multi regional ☐ ☐
Distribution details	
Amount	
Comments	

Normal
Background Slow
Intermittent Slow
Continuous Slow
Spikes
Sharp Waves
BFEDCh
Spike-and-slow Wave
3 Hz Spike-and-slow Wave
Slow Spike-and-slow Wave
Polyspikes
Hypsarrhythmia
Photoparoxysmal Resp.
EEG Seizure Pattern
EEG Status Pattern
Excessive Fast
Asymmetry
Sleep-onset REM
Periodic Pattern
Triphasic Waves
PLEDs
Burst Suppression
Normal Variant
Dysmature
Electrocerebral Inactivity
Background Suppression
Paroxysmal Event
EEG Finding
Alpha Coma
Spindle Coma

Alpha
Beta
Background Rhyt
Spindles

EEG reporting system -FILLED

ELECTROENCEPHALOGRAM TEACHING FILE

Your Name	Mickey Mouse
Study Number	T001
EEG Classification	Abnormal III
State of consciousness	Awake and Sleep
Age	4-8 Yrs
Background Activity	8 Hz Poster Dominant Rhythm. Generalized 3 Hz Spike-and-wave complexes. HR 80 BPM

1) 3 Hz Spike-and-slow Wave, Generalized

EEG Classification	1) 3 Hz Spike-and-slow Wave
Distribution	Generalized
Distribution (details)	Diffuse
Amount	3 bursts, each lasting 1-3 seconds. Occurred 3 times.
Comments	HV did not induce a seizure-effort was minimal.

Impression: This EEG is supportive of genetic generalized epilepsy-absence epilepsy.

EEG Findings

How many findings do you wish to enter? 1

EDIT DESCRIPTION OF EEG FINDINGS

EEG Finding: 3 Hz Spike-and-slow Wave

- Increased Amplitude
- Decreased Amplitude
- Alpha
- Beta
- Background Rhythm
- Spindles

Distribution:

- Generalized ☑

	L	R
Hemisphere	☐	☐
Frontal	☐	☐
Central	☐	☐
Parietal	☐	☐
Occipital	☐	☐
Temporal	☐	☐
Anterior head regions	☐	☐
Posterior head regions	☐	☐
Multi regional	☐	☐

Distribution details	Diffuse
Amount	3 bursts, each lasting 1-3 seconds. Occurred 3 times.
Comments	HV did not induce a seizure-effort was minimal.

2. Unknown EEGs :40 Routine EEGs (1 Page)

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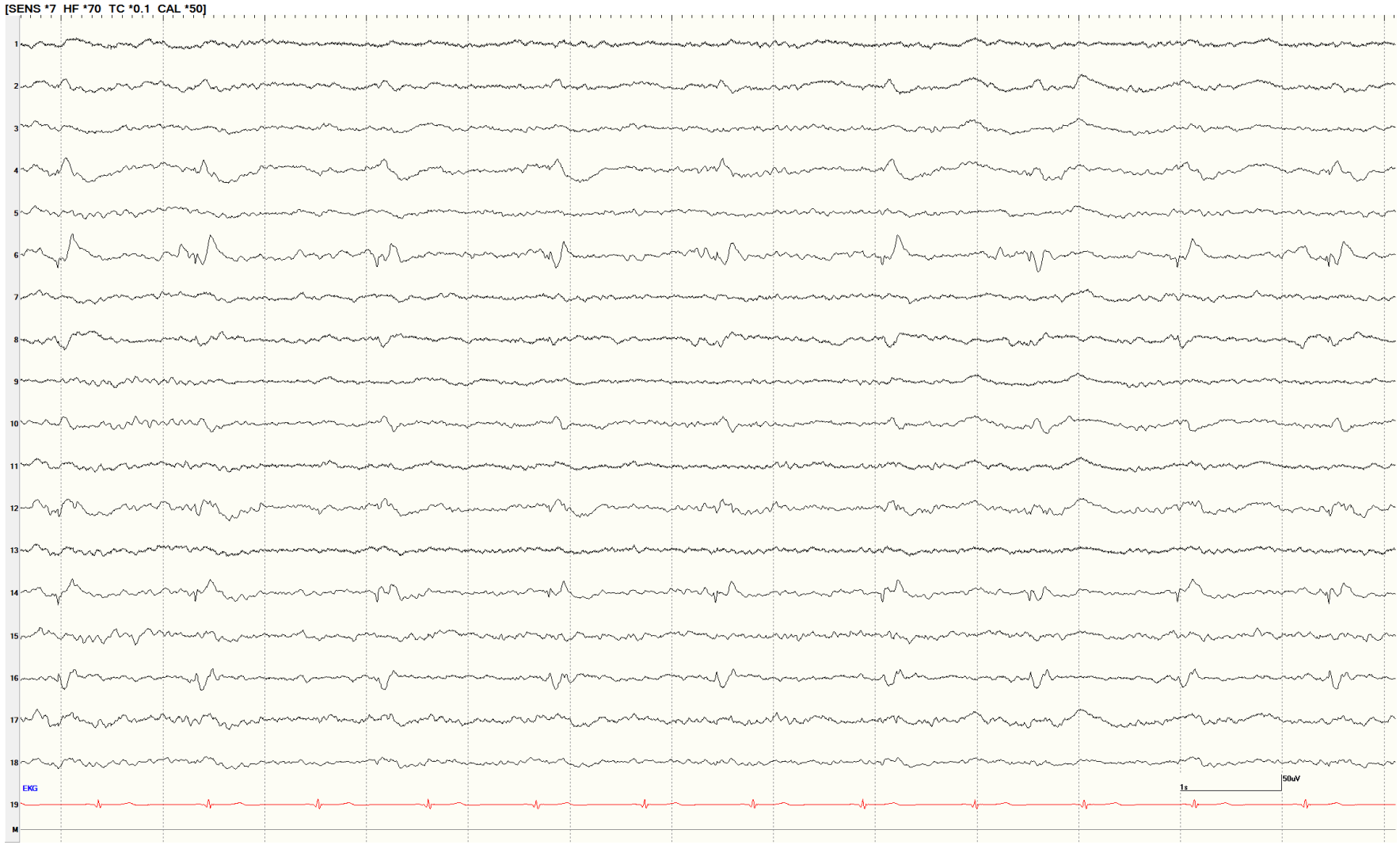
Unknown #3 week 8

Sensitivity: 7 uV TC: 0.1 HF: 70 60 Hz Filter: on Analysis time: 15 seconds



A student's "Unknown EEG" answer sheet

RESIDENT'S NAME _____ DATE TURNED IN _____ SIGNATURE OF PHYSICIAN TEACHING _____

50

Record #	Age	Level of Consciousness	Montage see *	Artifacts Normal Variants	EEG Classification	Clinical Interpretation	
T 11	18-60 1/2	AWAKE 1/2	5 1	• EYE MOVEMENTS • EMG 1 • 60 Hz	ABNORMAL III: - SHARP WAVES, 3 left fronto-central 4	FOCAL EPILEPSY left frontocentral 1	7
T 12	18-60 1/2	AWAKE 1/2	1 0	• EMG • EYE-MOVEMENTS 1	ABNORMAL III: - SPIKE-AND-SLOW WAVE, generalized 4	GENERALIZED EPILEPSY 1	7
T 13	1/3	SLEEP 1/2	4 0	1 NORMAL SLEEP K-complexes, spindles	NORMAL 4	NORMAL SLEEP 1	6.5
T 14	0	AWAKE 1/2	4 1	• EMG • EYE MOVEMENTS 1	ABNORMAL III • SEIZURE PATTERN, right temporal 4	RIGHT TEMPORAL LOBE EPILEPSY 1	7.5
T 15	0	AWAKE 1/2	1 1	• EMG • EYE MOVENTS 1	ABNORMAL III • CONTINOUS SLOW, right fronto-temporal 4	STRUCTURAL LESION RIGHT FRONTOTEMPORAL 1	7.5

58

AGE GROUPS: 0-1, 1-3, 3-7, 7-12, 12-18, 18-60, over 60

LEVELS OF CONSCIOUSNESS: Awake, Drowsy, Sleep II-IV, REM Sleep, Lethargy, Stupor, Coma

For "unknown sheets" only.
Revised 6/14/96

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3. Recommended Readings

Clinical Neurophysiology

Lecture Topics, Readings & Presentations

Week 3

H. Lüders, M.D., Ph.D.

Recommended Reading:

H. Lüders et al. Epilepsia 1998;39:1006 – 1013.
Semiological Seizure Classification.

Loddenkemper et al. Epileptic Disorders 2005; 7:308 – 316.
A proposal for a five-dimensional patient-oriented epilepsy classification.

Hauser et al. Epilepsia 1993;34:453 – 468.
Incidence of Epilepsy and Unprovoked Seizures in Rochester, Minnesota: 1935 – 1984.

Student Presentations

1. Ictal and postictal automatisms
2. Visual Auras

4. Previous course lectures

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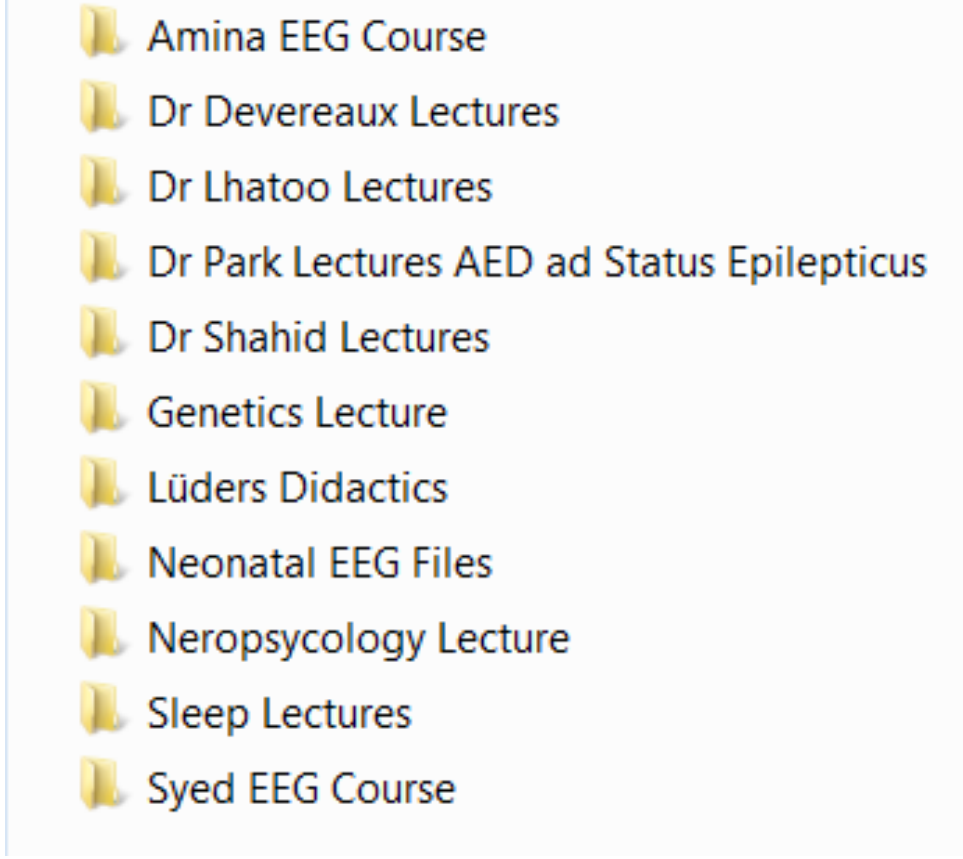

Evaluations

Midterm
Final
Resident milestones

Midterm and Final exam performance, Summer 2017 course

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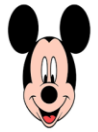
	Midterm Date 08/08/2017					Final Exam					
Students	Written Correct out of 14	Unknowns Correct out of 1	Total Correct out of 30	%	Students	Final multiple choice correct out of 63	Final Unknown, total correct out of 80	Total correct out of 143	Total % of	total of 173	Final %
A	10	11	21	70%	A	43	68.4	111.4	78%	132.4	77%
B	11	13	24	80%	B	39	59	98	69%	122	71%
C	8	12	20	67%	C	39	57	96	67%	116	67%
D	7	12	19	63%	D	29	67	96	67%	115	66%
E	8	12.5	20.5	68%	E	37	56	93	65%	113.5	66%
F	8	13	21	70%	F	33	58	91	64%	112	65%
G	11	13	24	80%	G	35	50.5	85.5	60%	109.5	63%
H	11	14	25	83%	H	40	43.5	83.5	58%	108.5	63%
I	6	13.5	19.5	65%	I	37	50.5	87.5	61%	107	62%
J	11	9.5	20.5	68%	J	36	50	86	60%	106.5	62%
K	7	10.5	17.5	58%	K	33	54.5	87.5	61%	105	61%
L	8	12.5	20.5	68%	L	31	52	83	58%	103.5	60%
M	9	11.5	20.5	68%	M	34	47	81	57%	101.5	59%
N	9	11.5	20.5	68%	N	26	54.5	80.5	56%	101	58%
O	8	11.5	19.5	65%	O	23	54	77	54%	96.5	56%
P	7	8	15	50%	P	41	37.5	78.5	55%	93.5	54%
Q	6	11	17	57%	Q	27	49	76	53%	93	54%
R	10	11.5	21.5	72%	R	26	45	71	50%	92.5	53%
S	5	12.5	17.5	58%	S	29	45.5	74.5	52%	92	53%
T	6	9	15	50%	T	24	53	77	54%	92	53%
U	7	7.5	14.5	48%	U	28	47	75	52%	89.5	52%
V	7	10.5	17.5	58%	V	27	44.5	71.5	50%	89	51%
W	8	5.5	13.5	45%	W	29	36	65	45%	78.5	45%

Neurology Resident
Research Scholar
EEG Tech

Resident Milestones

University Hospitals
Rainbow Babies & Children's Hospital

EEG/EPILEPSY COURESE: RESIDENT EVALUATION - CONSENSUS SCORES



Resident: Micky Mouse

MILESTONE 9. Select the statement that best describes the trainee's ability to care for patients with **epilepsy**.

	0.5	1	1.5	2	2.5	3	3.5	4	4.5	5
	No Interaction	Recognizes when a patient may have had a seizure		Identifies epilepsy phenomenology, and classification of seizures and epilepsies		Diagnoses and manages common seizure disorders and provides antiepileptic drug treatment		Diagnoses uncommon seizure disorders and can appropriately refer an epilepsy patient for surgical evaluation or other interventional therapies		Manages uncommon seizure disorders **OR** engages in scholarly activity in epilepsy (e.g., teaching, research)

Consensus Score: 3

MILESTONE 9B. Select the statement that best describes the trainee's ability to care for patients with **convulsive and non-convulsive status epilepticus**.

	0.5	1	1.5	2	2.5	3	3.5	4	4.5	5
	No Interaction			Diagnoses convulsive status epilepticus		Diagnoses non-convulsive status epilepticus		Manages convulsive and non-convulsive status epilepticus		Demonstrates mastery in managing refractory convulsive and non-convulsive status epilepticus

MILESTONE 16. Select the statement that best describes the resident's understanding of **electroencephalography (EEG)**.

Consensus Score: 3

MILESTONE 16. Select the statement that best describes the resident's understanding of **electroencephalography (EEG)**.

	0.5	1	1.5	2	2.5	3	3.5	4	4.5	5
	No Interaction	Explains an EEG procedure in non-technical terms		Uses appropriate terminology related to EEG (e.g., montage, amplitude, frequency		Describes normal EEG features of wake and sleep states AND recognizes EEG patterns of status epilepticus AND recognizes common EEG artifacts		Interprets common EEG abnormalities and normal EEG variants, and creates a report		Interprets uncommon EEG abnormalities **OR** describes normal and some abnormal EEG features of wake and sleep states in children

Consensus Score: 4

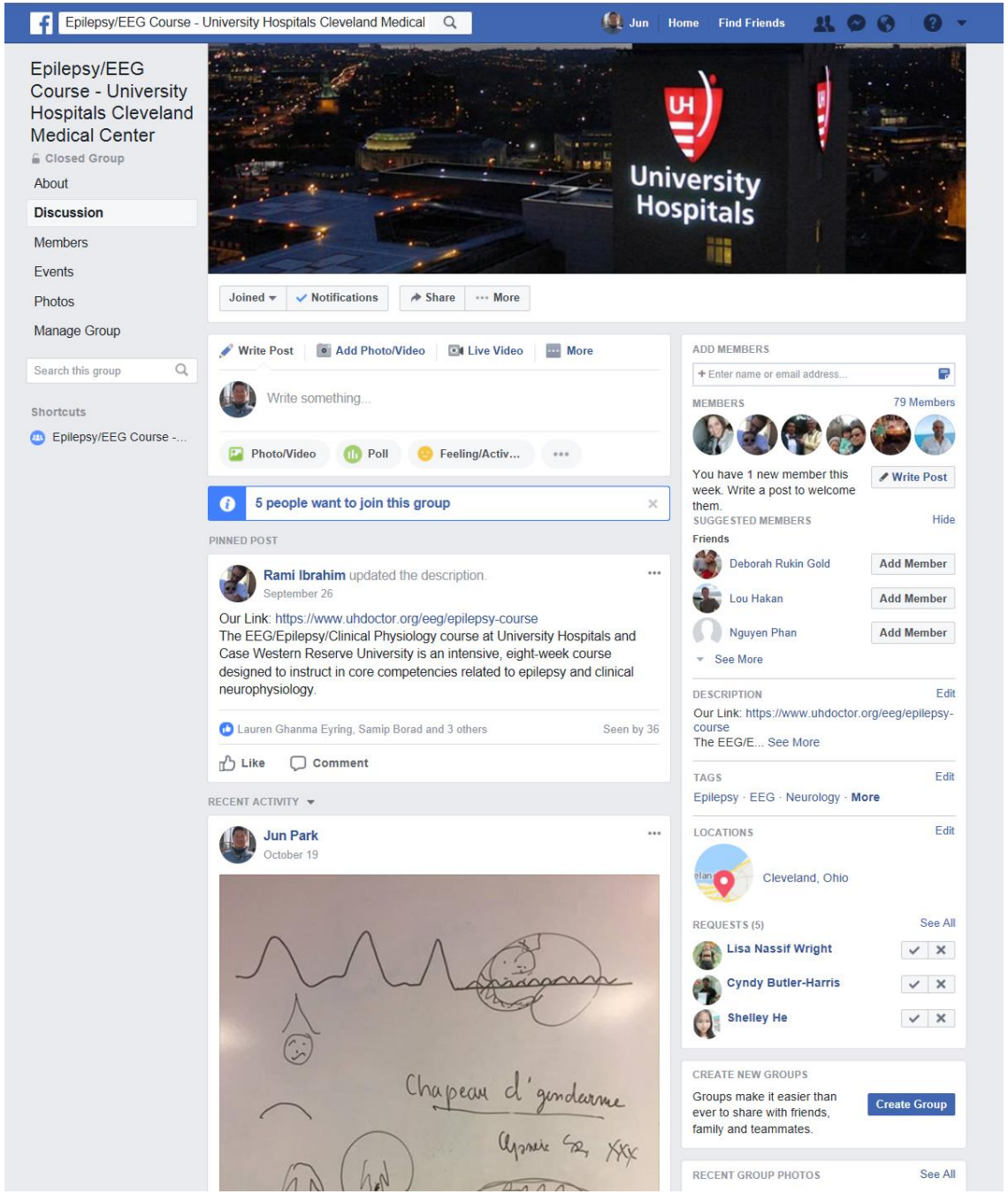
Rate the resident's **OVERALL PERFORMANCE** in this rotation.	(Select one)
	0-No Interaction
	1-Performance not appropriate for level (remediate)
	2-Performance below average for level (feedback)
	3-Performance appropriate for level of training
	4-Performance above expected for level of training
	5-Performance exceptional, in top 5-10% of class

Consensus Score: 3.5
(0-5)

Feedback Comments to Resident:

Option Confidential Comments to PD

Resident 1 | Resident 2 | Resident 3 | Resident 4 | **Resident 5** | Resident 6 | Resident 7



Alumni Facebook Page

(closed group)

Information:

https://www.uhdoctor.org/eeg/epilepsy-course

University Hospitals

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