



LifeCare Sleep and Health Center A-Step Syllabus



Week 1

Goal: Basics, HookUp, Channels, Starting Study, Patient Care

DAY ONE : ORENTATION TO A-STEP AND BEING A SLEEP TECHNOLOGIST

DAY ONE : ORENTATION TO A-STEP AND BEING A SLEEP TECHNOLOGIST					
8:30	9:00	Welcome and Orentation Introduction: Why be a sleep technologist? Tour of Sleep Center and Clinic Q&A Session	Jamie Baker RPSGT	0:30	Lecture
9:00	10:00	A-STEP Syllabus Pass out and go over expectations and requirements	Jamie Baker RPSGT	1:00	Lecture
10:00	10:40	A-STEP Handbook Read and initial (see attached) Go over general program expectations and understandings	Jamie Baker RPSGT	0:40	Lecture
10:40	11:40	New Student Paperwork Fill Out Necessary Forms	Jamie Baker RPSGT	1:00	Lecture
11:40	12:30	Basics of the field Employment Technician levels BRPT AASM AAST	Jamie Baker RPSGT	0:50	Lecture
12:30	1:00	30 Minute Lunch		0:30	
1:00	2:30	Patient Confidentiality/HIPAA Discuss LCSHC's A-STEP Confidentiality expectations and why they are Watch mandatory HIPAA Video Go over video - discuss highlights Practice Session: Role Playing <div style="background-color: #FFDAB9; padding: 5px; margin: 5px 0;"> Split up into groups and give scenarios Each group will take turns acting out scenarios and groups not presenting will brainstorm on what actions should be taken to ensure HIPAA and confidentiality requirements are being met </div> Take HIPAA Competency Test	Jamie Baker RPSGT	1:30	Lecture/Simulation
2:30	5:00	Introduction to the basics of sleep technology Sleep History of Sleep. What defines sleep? Why do we sleep? What are the effects of sleep on the body? Sleep deprivation: What are the causes? How much sleep do you need and why? What can be side-effects of sleep loss? Sleep routine and hygiene: what are basics? Importance of routines Sleep disorders: overview of OSA, Narcolepsy, Insomnia, etc. Sleep Technology Introduction to being a technician, universal precautions as a health field employee, equipment knowledge and safety.	Dr. Ashok Gupta MD FACP D ABSM	2:30	Lecture

Total Instruction Hours

8:00



LifeCare Sleep and Health Center

A-Step Syllabus



DAY 2: UNDERSTANDING THE BRAIN AND EEG

8:30	10:00	Brain structure and relationship to sleep Neurons Synapses Dendrites Neurotransmitters How these pertain to sleep Sources of EEG Activity and basic overview of EEG Activity What you will see, why and what does it mean?	Jamie Baker RPSGT	1:30	Lecture
10:00	12:30	Introduction to EEG Measurements 10/20 EEG Positioning Training What each placement is called Where each placement is put Different montage's used (NPSG, seizure, etc.) Demonstrate measurements and markings	Jamie Baker RPSGT	2:30	Lecture
12:30	1:00	30 Minute Lunch		0:30	
1:00	5:00	EEG Positioning Training Practice EEG measuring and positioning using mannequins	Jamie Baker RPSGT	4:00	Simulation

Total Instruction Hours 8:00

DAY 3: FULL PATIENT HOOKUP (PART 1: EEG, EOG AND CHIN EMG)

8:30	9:15	Overview of tools and hardware Go through toolbox to get a feel for what supplies are used and when, etc. Show equipment and wires to become familiar with them (electrode)	Jamie Baker RPSGT	0:45	Lecture
9:15	12:30	Demonstration of a hookup Skin Preparation (marking and abrading) Application (cream, gauze, paste, tape, etc.)	Jamie Baker RPSGT	3:15	Lecture
12:30	1:00	30 Minute Lunch		0:30	
1:00	5:00	Hookup Practice Session EEG Hookup to begin with measurements, past, etc Individually or in groups practice on glass or foam heads Practice on one another	Jamie Baker RPSGT	4:00	Simulation

Total Instruction Hours 8:00



LifeCare Sleep and Health Center A-Step Syllabus



DAY 4: FULL PATIENT HOOKUP (PART 2: EKG, LEG EMG, BELTS, FLOW, SaO2)					
8:30	9:30	Review Hookup to this point EEG EOG Chin EMG	Jamie Baker RPSGT	1:00	Lecture
9:30	12:30	Demonstrate remainder of hookup EKG Placement and skin preparation Lead I, II, III Lead II recommended by the AASM Leg Placement and skin preparation Belt Placement Airflow Placement	Jamie Baker RPSGT	3:00	Lecture
12:30	1:00	30 Minute Lunch		0:30	
1:00	3:00	Hookup Practice Session Practice full patient hookup on one another	Jamie Baker RPSGT	2:00	Simulation
3:00	4:00	Impedences Review each channel and discuss proper signal and impedences Basic electrical principals Differential amplification Polarity and amplitude calculations Filters	Jamie Baker RPSGT	1:00	Lecture
4:00	5:00	Artifact recognition and troubleshooting EEG Artifact EMG Artifact EKG Artifact Respiratory Artifact Environmental Artifact	Jamie Baker RPSGT	1:00	Lecture

Total Instruction Hours

8:00



LifeCare Sleep and Health Center A-Step Syllabus



DAY 5: MIDPOINT, RESPIRATORY AND OTHER SLEEP STUDIES

DAY 5: MIDPOINT, RESPIRATORY AND OTHER SLEEP STUDIES					
8:30	9:30	Assessment Midpoint Evaluation	Jamie Baker RPSGT	1:00	Lecture
9:30	12:30	Practice: Full HookUp	Jamie Baker RPSGT	3:00	Simulation
12:30	1:00	30 Minute Lunch		0:30	
1:00	2:30	Respiratory Nose and Sinuses Tongue and oropharynx Palate and uvula Control of Upper Airway Relating to sleep Breathing mechanics Gas Exchange REM & NREM Differences	Jamie Baker RPSGT	1:30	Lecture
2:30	3:30	Sensors (in addition to brief discussion during hookup training) Thermal Pressure Transducers Capnography Snoring Effort Belts EMG Oxygen Saturation Pulse Oximeter SaO2 Probe Calibration Measurement accuracy	Jamie Baker RPSGT	1:00	Lecture
3:30	5:00	Sleep Tests OCST (Out of Center Sleep Testing) or HST (Home Sleep Testing) Responsibilities and protocols Devices and reimbursement Disqualifying factors Routine PSG Special Orders Patient preparation and education Troubleshooting Bio-Calibrations Machine Calibrations (what they are and why we do them)	Jamie Baker RPSGT	1:30	Lecture

Total Instruction Hours 8:00

Week 1 Total Instruction Hours (Lecture and Simulation): 40 Hours



LifeCare Sleep and Health Center

A-Step Syllabus



Week 2

Goal: Concepts of PSG Recording and Reading

DAY 6: EKG					
8:30	12:30	EKG Lecture Anatomy of the heart Electrical pathways of the heart Electrocardiogram reading (Normal) EKG Abnormalities / Cardiac Arrhythmias	Jamie Baker RPSGT	4:00	Lecture
12:30	1:00	30 Minute Lunch			
1:00	5:00	Practice Session : EKG Practice on Paper/White Boards to detect abnormalities Scoring Abnormalities in a full PSG study	Jamie Baker RPSGT	4:00	Simulation

Total Instruction Hours 8:00

DAY 7: INTRODUCTION TO FULL PSG SCORING					
8:30	10:30	EEG SLEEP STAGING AASM Manual for the Scoring of Sleep and Associated Events rules Terminology and Technical Specification, 2012, and R & K Manual Sleep Cycles Wake Stage N1 Stage N2 Stage N3 (Delta Sleep) Stage REM Body Movements Arousals	Jamie Baker RPSGT	2:00	Lecture
10:30	12:30	Practice Session : EEG Sleep Staging			
12:30	1:00	30 Minute Lunch			
1:00	3:00	Sleep Related Breathing disorders OSA (Obstructive Sleep Apnea) Definition and clinical features Epidemiology Pathophysiology Complications PSG features CSA (Central Sleep Apnea) Definition and clinical features Epidemiology Pathophysiology Complications PSG features VPAP Treatment (examples, discussion) Scoring Respiratory Events Apnea (obstructive, mixed and central) Hypopnea RERA Snoring Oxygen Desaturation Criteria for diagnosing sleep apnea (Chicago Conference)	Jamie Baker RPSGT	2:00	Lecture
3:00	4:00	Practice Session : Scoring Respiratory Events			
4:00	5:00	Practice Session : EEG Sleep Staging and Respiratory Events			

Total Instruction Hours 8:00



LifeCare Sleep and Health Center A-Step Syllabus



DAY 8: OVERVIEW OF PAP (POSITIVE AIRWAY PRESSURE) THERAPY

DAY 8: OVERVIEW OF PAP (POSITIVE AIRWAY PRESSURE) THERAPY					
8:30	10:30	<p>Overview of PAP Therapy</p> <ul style="list-style-type: none"> Mechanics of PAP Physiological impact of PAP on heart and lungs Mask Designs Compliance Complications <p>Performing PAP Titration Studies</p> <ul style="list-style-type: none"> CPAP Titration Protocol Split Night Studies <p style="padding-left: 40px;">Rationale</p> <p style="padding-left: 40px;">Protocol</p> <p>BiLevel PAP (BiPAP)</p> <ul style="list-style-type: none"> BiLevel protocol Why and when to use How does it differ from CPAP? Selecting appropriate pressures <p>Alternative Treatments / Therapies</p> <p>ASV (AutoServo Ventilation)</p> <ul style="list-style-type: none"> Used for patients with complex sleep apnea and congestive heart failure Protocol When is it appropriate? <p>AVAPS (Average Volume Assured Pressure Support) BiPAP</p> <ul style="list-style-type: none"> Protocol How it differs from regular BiPAP When is it appropriate? Appropriate titrating <p>Oxygen (supplemental)</p> <ul style="list-style-type: none"> Protocol and guidelines 	Jamie Baker RPSGT	2:00	Lecture
10:30	12:30	<p>Practice Session : PAP</p> <ul style="list-style-type: none"> Equipment Setup Mask Fitting 	Jamie Baker RPSGT	2:00	Simulation
12:30	1:00	30 Minute Lunch		0:30	
1:00	2:00	<p>Alternative Treatments for Sleep Apnea</p> <ul style="list-style-type: none"> Surgical Therapies Oral Appliances / Dental Devices Pharmacologic Therapies Positional Therapies Weight Reduction 	Jamie Baker RPSGT	1:00	Lecture
2:00	3:30	<p>Overall Practice Session #1</p> <ul style="list-style-type: none"> EEG, Sleep Staging, respiratory scoring, EKG Scoring 	Jamie Baker RPSGT	1:30	Simulation
3:30	5:00	<p>Overall Practice Session #2</p> <ul style="list-style-type: none"> Head Measurement and Hookup 	Jamie Baker RPSGT	1:30	Simulation

Total Instruction Hours

8:00



LifeCare Sleep and Health Center

A-Step Syllabus



DAY 9: OTHER DISORDERS					
8:30	10:30	EMG and Movement disorders Clinical Features Epidemiology Pathophysiology Treatments Including effects on PSG Musculoskeletal System Other Movement Disorders in Sleep Bruxism Latrogenic movement disorders Parasomnias Practice Session : Limb Movements, EMG Hookup, Scoring PLMs (and associated Scoring Criteria Association with arousals (PLM arousal indices)	Jamie Baker RPSGT	2:00	Lecture/Simulation
10:30	12:30	Narcolepsy, seizures and parasomnias Parasomnias Definition NREM and REM Parasomnias Other Seizures Sleep Onset NREM vs. REM Clinical Features Ictal and interictal EEG Practice Session : Seizure Montages Practice adding placements	Jamie Baker RPSGT	2:00	Lecture/Simulation
12:30	1:00	30 Minute Lunch		0:30	
1:00	2:30	Narcolepsy (MSLT and MWT) Clinical Features Epidemiology, differential diagnosis Treatments MSLT and MWT Tests Indications Protocol and montages Preparing the patient Documentation Medication effects	Jamie Baker RPSGT	1:30	Lecture
2:30	3:30	Insomnia Classification Etiology Epidemiology Co-morbid condition Treatment - behavioral and pharmacological Role of a PSG	Jamie Baker RPSGT	1:00	Lecture
3:30	5:00	Practice Session : Final Exam Review	Jamie Baker RPSGT	1:30	Simulation

Total Instruction Hours 8:00



LifeCare Sleep and Health Center A-Step Syllabus



DAY 10: PEDIATRICS, FINAL EXAM AND WRAP UP

8:30	10:30	Pediatric PSG Patient and parental preparation Montages Sleep Staging Respiratory/Pediatric sleep-disordered breathing Clinical features Epidemiology Associated conditions Treatment Snoring and respiratory events Criteria for diagnosing sleep apnea in children Other pediatric sleep disorders Movement disorders Behavioral problems Non-REM parasomnias Seizures Narcolepsy Adolescent Sleep	Jamie Baker RPSGT	2:00	Lecture
10:30	11:30	Practice Session : Scoring Pediatric Studies	Jamie Baker RPSGT	1:00	Simulation
11:30	12:30	Wrap Up-Capstone discussion	Jamie Baker RPSGT	1:00	Lecture
12:30	1:00	30 Minute Lunch		0:30	
1:00	3:00	Final Exam : Written	Jamie Baker RPSGT	2:00	EXAM
3:00	4:00	Final Exam : Practical	Jamie Baker RPSGT	1:00	EXAM
4:00	5:00	Final review & Certificate of Completion	Jamie Baker RPSGT	1:00	Lecture

Total Instruction Hours 8:00

Week 1 Total Instruction Hours (Lecture and Simulation): 40 Hours

Total hours for 2 week A-STEP Program: 80 Hours