

Sleep Technology Terms & Definitions

Revised 2016



Sleep Technology Terms and Definitions

Second Edition

Published by the American Association of Sleep Technologists – Darien, Illinois

Copyright © 2012-2016 American Association of Sleep Technologists, 2510 North Frontage Road, Darien, IL 60561-1511, U.S.A.

Copies of this book are available from the American Association of Sleep Technologists in the U.S.A.

All rights reserved. No parts of this book may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying, recording, or by any information storage and retrieval system, without written permission from the American Association of Sleep Technologists. Translations to other languages must be authorized by the American Association of Sleep Technologists.

Correspondence regarding copyright permissions should be directed to:

AAST Coordinator
2510 North Frontage Road
Darien, IL 60561-1511
U.S.A.

www.AASTWeb.org

Recommended Citation:

American Association of Sleep Technologists. *Sleep Technology Terms and Definitions*. 2nd ed. Darien, IL: American Association of Sleep Technologists, 2016.

Preface

The American Association of Sleep Technologists (AAST) developed the Sleep Technology Terms and Definitions handbook to provide the sleep technology profession with consistent and accurate explanations of key terms that are used in the routine practice of sleep technology. This reference will help both new and veteran sleep technologists understand and communicate key concepts using a common professional language.

The AAST Board of Directors acknowledges the extensive time and effort that the members of the AAST Educational Products Committee put forth to develop this reference tool for sleep technologists. The Board also thanks Rita Brooks, MEd, RST, RPSGT, REEG/EPT and Cynthia Mattice, MS, RST, RPSGT. We thank these individuals for their efforts on behalf of the profession.



Sleep Technology Terms & Definitions
May 2016

Term: Actigraphy

Abbreviation: N/A

Definition: A technique of motion detection used to record activities during sleep and waking.

Reference: Uhles, M. & Malhotra, R. (2012). Movement disorders. In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 152). Philadelphia: Lippincott Williams & Wilkins.

Term: Adaptive Servoventilation

Abbreviation: ASV

Definition: A mode of PAP therapy that provides varying amounts of inspiratory support (on top of expiratory pressure) during different phases of periodic breathing.

Reference: Harris, N. & Javaheri, S. (2012). Advanced PAP therapies. In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 445). Philadelphia: Lippincott Williams & Wilkins.

Term: Advanced Sleep-Wake Phase Disorder

Abbreviation: ASWPD

Definition: A stable advance of the major sleep period characterized by habitual sleep onset and wake-up times that are 2 or more hours earlier relative to conventional and desired times.

Reference: American Academy of Sleep Medicine. *International classification of sleep disorders, 3rd ed.* Darien, IL: American Academy of Sleep Medicine, 2014.

Term: Alternating Current Amplifier

Abbreviation: AC Amp

Definition: An amplifier designed to process rapidly fluctuating signals. Contains both high and low frequency filters.

Reference: Tyner, F., Knott, J., & Mayer, W. (1983). *Fundamentals of EEG technology, Vol.1: Basic concepts and methods* (p. 3). New York: Raven Press.

Term: Alpha Rhythm

Abbreviation: N/A

Definition: An EEG pattern consisting of trains of sinusoidal 8 – 13 Hz activity recorded over the occipital region with eye closure, attenuating with eye opening.

Reference: Berry, R.B., Brooks, R., Gamaldo, C.E., Harding, S.M., Lloyd, R.M., Marcus, C.L. and Vaughn, B.V. (2016). *The AASM manual for the scoring of sleep and associated events: Rules, terminology and technical specifications, Version 2.3.* Darien, IL: American Academy of Sleep Medicine.

Term: American Academy of Sleep Medicine

Abbreviation: AASM

Definition: The United States based professional medical society that sets the clinical and technical standards for sleep medicine, including the accreditation of sleep facilities and A-STEP education programs. The AASM improves sleep health and promotes high quality patient centered care through advocacy, education, strategic research, and practice standards.

Reference: Retrieved from <http://www.aasmnet.org/>

Term: American Association of Sleep Technologists

Abbreviation: AAST

Definition: The professional society whose mission is to promote and advance the sleep technology profession through the continued development of educational, technical, and clinical excellence in sleep health.

Reference: Retrieved from <http://www.aastweb.org/>

Term: American Board of Sleep Medicine

Abbreviation: ABSM

Definition: The professional society established to encourage the study, improve the practice, elevate the standards of sleep medicine, and issue certificates of special knowledge in sleep medicine.

Reference: Retrieved from <http://www.absm.org/>

Term: American Medical Association

Abbreviation: AMA

Definition: The largest United States based association of medical doctors and students. Their mission is to promote the science of medicine for the betterment of the public health.

Reference: Retrieved from <http://www.ama-assn.org/>

Term: American Sleep Apnea Association

Abbreviation: ASAA

Definition: A non-profit organization dedicated to educating the public about sleep apnea.

Reference: Retrieved from <http://www.sleepapnea.org>

Term: Amplitude

Abbreviation: N/A

Definition: The vertical height of a wave, representing the electrical force or voltage of the wave.

Reference: Glossary (2012). In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 636). Philadelphia: Lippincott Williams & Wilkins.

Term: Analog to Digital Converters

Abbreviation: ADC

Definition: Converts an analog (continuous) signal into numeric form by assigning a numeric value, at predetermined intervals, to the amplitude of the analog waveform.

Reference: Walther, F. (2012) Digital polysomnography. In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 281). Philadelphia: Lippincott Williams & Wilkins.

Term: Antidepressant
Abbreviation: N/A
Definition: Psychiatric medication used to alleviate mood disorders. These meds influence REM sleep by lengthening REM latency, decreasing REM density and decreasing REM percentage particularly during the first third of the night.
Reference: Glossary (2012). In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 636). Philadelphia: Lippincott Williams & Wilkins.

Term: Apnea Index
Abbreviation: AI
Definition: Number of obstructive apneas plus the number of central apneas plus the number of mixed apneas times 60 divided by total sleep time in minutes.
Reference: Berry RB, Brooks R, Gamaldo CE, Harding SM, Lloyd RM, Marcus CL and Vaughn BV for the American Academy of Sleep Medicine. *The AASM Manual for the Scoring of Sleep and Associated Events: Rules, Terminology and Technical Specifications, Version 2.3.* www.aasmnet.org. Darien, IL: American Academy of Sleep Medicine, 2016.

Term: Apnea-Hypopnea Index
Abbreviation: AHI
Definition: The number of obstructive apneas, central apneas, mixed apneas, and hypopneas multiplied by 60 divided by total sleep time in minutes.
Reference: Berry RB, Brooks R, Gamaldo CE, Harding SM, Lloyd RM, Marcus CL and Vaughn BV for the American Academy of Sleep Medicine. *The AASM Manual for the Scoring of Sleep and Associated Events: Rules, Terminology and Technical Specifications, Version 2.3.* www.aasmnet.org. Darien, IL: American Academy of Sleep Medicine, 2016.

Term: Arousal
Abbreviation: N/A
Definition: An abrupt shift in EEG frequency lasting for at least 3 seconds with at least 10 seconds of stable sleep preceding the change in N1, N2, N3, or R. Scoring of arousal during REM requires a concurrent increase in submental EMG lasting at least 1 second.
Reference: Berry RB, Brooks R, Gamaldo CE, Harding SM, Lloyd RM, Marcus CL and Vaughn BV for the American Academy of Sleep Medicine. *The AASM Manual for the Scoring of Sleep and Associated Events: Rules, Terminology and Technical Specifications, Version 2.3.* www.aasmnet.org. Darien, IL: American Academy of Sleep Medicine, 2016.

Term: Artifact
Abbreviation: N/A
Definition: Extraneous signals appearing within any of the recorded parameters of the polysomnogram.
Reference: Leary, E. (2012). Polysomnographic recording procedures. In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 330). Philadelphia: Lippincott Williams & Wilkins.

Term: Asystole
Abbreviation: N/A
Definition: Cardiac pauses greater than 3 seconds for ages 6-adult.
Reference: Berry RB, Brooks R, Gamaldo CE, Harding SM, Lloyd RM, Marcus CL and Vaughn BV for the American Academy of Sleep Medicine. *The AASM Manual for the Scoring of Sleep and Associated Events: Rules, Terminology and Technical Specifications, Version 2.3.* www.aasmnet.org. Darien, IL: American Academy of Sleep Medicine, 2016.

Term: Atrial Fibrillation
Abbreviation: A-Fib
Definition: An irregularly irregular ventricular rhythm associated with replacement of consistent P waves by rapid oscillations that vary in size, shape, and timing.
Reference: Berry RB, Brooks R, Gamaldo CE, Harding SM, Lloyd RM, Marcus CL and Vaughn BV for the American Academy of Sleep Medicine. *The AASM Manual for the Scoring of Sleep and Associated Events: Rules, Terminology and Technical Specifications, Version 2.3.* www.aasmnet.org. Darien, IL: American Academy of Sleep Medicine, 2016.

Term: Beta Rhythm
Abbreviation: N/A
Definition: An EEG rhythm consisting of 13-30 Hz activity.
Reference: Berry RB, Brooks R, Gamaldo CE, Harding SM, Lloyd RM, Marcus CL and Vaughn BV for the American Academy of Sleep Medicine. *The AASM Manual for the Scoring of Sleep and Associated Events: Rules, Terminology and Technical Specifications, Version 2.3.* www.aasmnet.org. Darien, IL: American Academy of Sleep Medicine, 2016.

Term: Bigeminy
Abbreviation: N/A
Definition: A heart arrhythmia in which an abnormal heartbeat occurs every other concurrent beat.
Reference: Glossary (2012). In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 637). Philadelphia: Lippincott Williams & Wilkins.

Term: Biocalibrations
Abbreviation: Bio-cals
Alternate
Term: Patient calibrations
Definition: The series of instructions that are designed to determine that the sensors are correctly picking up signals from a patient, the polarity of the signals is correct, that the strength of the signal is sufficient, and that there is no unwanted interference.
Reference: Patrick, R. (2012). Recording the biopotentials of sleep. In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 289). Philadelphia: Lippincott Williams & Wilkins.

Term: Bilevel Positive Airway Pressure
Abbreviation: BPAP
Definition: Provides pressure at one level during inspiration positive airway pressure (IPAP) and at a lower pressure during expiration positive airway pressure (EPAP).
Reference: Rosenberg, R., Whitmore, H., Yvanauskas, C. (2012). Titration of continuous positive airway Pressure and application and adjustment of positive airway pressure devices. In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 416). Philadelphia: Lippincott Williams & Wilkins.

Term: Board of Registered Polysomnographic Technologists
Abbreviation: BRPT
Definition: The Board of Registered Polysomnographic Technologists (BRPT)TM is an independent, non-profit certification board that administers the RPSGTTM credential. The BRPTTM develops, maintains and administers the RPSGTTM exam and establishes the BRPTTM Standards of Conduct for credentialed technologists.
Reference: Retrieved from <http://www.brpt.org>

Term: Bradycardia
Abbreviation: N/A
Definition: An EKG rhythm of less than 60 beats per minute during wake and less than 40 beats per minute during sleep for ages 6 years through adult.
Reference: Berry RB, Brooks R, Gamaldo CE, Harding SM, Lloyd RM, Marcus CL and Vaughn BV for the American Academy of Sleep Medicine. *The AASM Manual for the Scoring of Sleep and Associated Events: Rules, Terminology and Technical Specifications, Version 2.3.* www.aasmnet.org. Darien, IL: American Academy of Sleep Medicine, 2016.

Term: Bruxism
Abbreviation: N/A
Definition: Grinding the teeth and clenching the jaw during wakefulness and sleep; often associated with arousals during sleep.
Reference: Glossary (2012). In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 637). Philadelphia: Lippincott Williams & Wilkins.

Term: Calibration
Abbreviation: N/A
Definition: Application of a 50 microvolts (negative) DC voltage to all channels in order to document correct signal polarity amplitude and time constant.
Reference: Leary, E. (2012). Polysomnographic recording procedures. In: Mattice, C., Brooks, R., Lee-Chiong, T., *Fundamentals of sleep technology, 2nd ed.* (p. 326). Philadelphia: Lippincott Williams & Wilkins.

Term: Capnography
Abbreviation: N/A
Definition: Carbon dioxide (CO₂) monitoring, either transcutaneous or end tidal.
Reference: Kline, C., Krupski, T. (2012). Pediatric polysomnography. In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 505). Philadelphia: Lippincott Williams & Wilkins.

Term: Cataplexy
Abbreviation: N/A
Definition: More than one episode of generally brief (< 2 minutes), usually bilaterally symmetrical sudden loss of muscle tone with retained consciousness. The episodes are precipitated by strong emotions, usually positive, with almost all patients reporting some episodes precipitated by emotions associated with laughter.
Reference: American Academy of Sleep Medicine. *International classification of sleep disorders, 3rd ed.* Darien, IL: American Academy of Sleep Medicine, 2014.

Term: Catathrenia
Abbreviation: N/A
Definition: Sleep related groaning.
Reference: American Academy of Sleep Medicine. *International classification of sleep disorders, 3rd ed.* Darien, IL: American Academy of Sleep Medicine, 2014.

- Term:** Central Apnea
Abbreviation: CA
Definition: Cessation of respiratory drive resulting in the lack of respiratory movements.
Reference: Patrick, R. (2012). General human physiology for the sleep technologist. In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 82). Philadelphia: Lippincott Williams & Wilkins.
- Term:** Cheyne-Stokes Respiration
Abbreviation: CSR
Definition: Episodes of greater than or equal to 3 consecutive central apneas and/or central hypopneas separated by a crescendo and decrescendo pattern changes in breathing amplitude with a cycle of greater than or equal to 40 seconds. Score CSR when there are greater than or equal to 5 central apneas and or central hypopneas per hour of sleep associated with the crescendo/decrecendo breathing pattern recorded over greater than or equal to 2 hours of monitoring.
Reference: Berry RB, Brooks R, Gamaldo CE, Harding SM, Lloyd RM, Marcus CL and Vaughn BV for the American Academy of Sleep Medicine. *The AASM Manual for the Scoring of Sleep and Associated Events: Rules, Terminology and Technical Specifications, Version 2.3.* www.aasmnet.org. Darien, IL: American Academy of Sleep Medicine, 2016.
- Term:** Chin EMG
Abbreviation: N/A
Definition: A recording of muscle activity from the mentalis and submentalis consisting of electrodes placed above and below the inferior mandible, utilized in the scoring of sleep stages and bruxism.
Reference: Berry RB, Brooks R, Gamaldo CE, Harding SM, Lloyd RM, Marcus CL and Vaughn BV for the American Academy of Sleep Medicine. *The AASM Manual for the Scoring of Sleep and Associated Events: Rules, Terminology and Technical Specifications, Version 2.3.* www.aasmnet.org. Darien, IL: American Academy of Sleep Medicine, 2016.
- Term:** Chronic Obstructive Pulmonary Disease
Abbreviation: COPD
Definition: A disease state characterized by airflow limitations that is relatively irreversible.
Reference: Krupski, T. (2012). Sleep and medical disorders. In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 202). Philadelphia: Lippincott Williams & Wilkins.
- Term:** Chronic Fatigue Syndrome
Abbreviation: CFS
Definition: Persistent or relapsing fatigue that does not resolve with sleep or rest.
Reference: American Academy of Sleep Medicine. *International classification of sleep disorders, 3rd ed.* Darien, IL: American Academy of Sleep Medicine, 2014.
- Term:** Circadian Rhythm
Abbreviation: N/A
Definition: Endogenous, near 24 hour biological rhythm that exists in all living organisms. It is synchronized to the 24 hour light-dark cycle
Reference: American Academy of Sleep Medicine. *International classification of sleep disorders, 3rd ed.* Darien, IL: American Academy of Sleep Medicine, 2014.

Term: Complex Sleep Apnea
Abbreviation: N/A
Definition: Newly described respiratory pathology in which the application of CPAP for the treatment of obstructive sleep apnea illicit central apneas in the patient. This pathology is often seen in heart failure patients.
Reference: Glossary (2012). In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 638). Philadelphia: Lippincott Williams & Wilkins.

Term: Continuing Education Credit
Abbreviation: CEC
Definition: A unit that corresponds to actual contact hours, equivalent to time spent in hours maintaining education and knowledge in a respective field. Units are acceptable if the activity has been granted hours by a credit-granting organization.
Reference: Retrieved from
<http://cdn2.hubspot.net/hubfs/488356/PDFs/AASTCECAppInfo.pdf?t=1463691477740>

Term: Continuous Positive Airway Pressure
Abbreviation: CPAP
Definition: CPAP is a therapeutic treatment for sleep apnea. A CPAP circuit (machine, air hose and patient interface) delivers continuous air pressure during inspiration and exhalation to keep the upper airway open.
Reference: Atkinson, J. (2012). Sleep technology: Past, present and future. In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 4). Philadelphia: Lippincott Williams & Wilkins.

Term: Cycles Per Second
Abbreviation: CPS
Definition: The number of times a waveform repeats itself in one second. 'Cycles per second' is synonymous with hertz.
Reference: Kreinin, I. (2012). Sleep across the lifecycle. In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 16). Philadelphia: Lippincott Williams & Wilkins.

Term: Delta Wave
Abbreviation: N/A
Definition: Extremely slow waves with a frequency < 4 Hz.
Reference: Tyner, F., Knott, J., & Mayer, W. (1983). *Fundamentals of EEG technology, Vol.1: Basic concepts and methods* (p. 3). New York: Raven Press.

Term: Differential Amplifier
Abbreviation: N/A
Definition: An amplifier which processes signals from 2 electrodes, an exploring electrode and a reference, to an output that is proportional to the differences in voltages received by its two inputs.
Reference: Walther, F. (2012). Digital polysomnography. In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 277). Philadelphia: Lippincott Williams & Wilkins.

- Term:** Dominant Posterior Rhythm
Abbreviation: DPR
Definition: The dominant reactive EEG rhythm in children seen over the occipital regions in relaxed wakefulness with eyes closed and attenuates with eye opening or attention.
Reference: Berry RB, Brooks R, Gamaldo CE, Harding SM, Lloyd RM, Marcus CL and Vaughn BV for the American Academy of Sleep Medicine. *The AASM Manual for the Scoring of Sleep and Associated Events: Rules, Terminology and Technical Specifications, Version 2.3.* www.aasmnet.org. Darien, IL: American Academy of Sleep Medicine, 2016.
- Term:** Durable Medical Equipment
Abbreviation: DME
Definition: The term “durable medical equipment” refers to items used in the patient's home, whether furnished on a rental basis or purchased.
Reference: Retrieved from www.cms.gov/center/dme.asp
- Term:** Electrocardiogram
Abbreviation: ECG, EKG
Definition: Records electrical activity produced by the cells within the atrium and ventricles of the heart producing specific waveforms and complexes.
Reference: Endee, L. (2012). Cardiac anatomy and physiology. In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 75). Philadelphia: Lippincott Williams & Wilkins.
- Term:** Electroencephalogram
Abbreviation: EEG
Definition: A recording of the electrical activity of the brain, measured by the application of surface electrodes to determine sleep stages and wakefulness.
Reference: Glossary (2012). In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 639). Philadelphia: Lippincott Williams & Wilkins.
- Term:** Electromyogram
Abbreviation: EMG
Definition: A recording of electrical activity of the muscles measured by the application of surface electrodes to monitor specific muscle groups during sleep.
Reference: Glossary (2012). In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 639). Philadelphia: Lippincott Williams & Wilkins.
- Term:** Electrooculogram
Abbreviation: EOG
Definition: A recording of electrical activity of the eyes measured by the application of surface electrodes to the outer canthus of the eyes to monitor various eye movements related to wakefulness and sleep stages.
Reference: Glossary (2012). In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 639). Philadelphia: Lippincott Williams & Wilkins.

- Term:** End-Tidal CO₂
Abbreviation: PetCO₂
Definition: A CO₂ measurement from a side-stream nasal cannula or a direct measurement of exhaled CO₂ from a tracheostomy or an endotracheal tube. End-tidal CO₂ measurements are subject to breath-to-breath fluctuations and may be affected by varying respiratory patterns such as tachypnea, sighs, or mouth breathing.
Reference: Glossary (2012). In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 639). Philadelphia: Lippincott Williams & Wilkins.
- Term:** ENT
Alternate
Term: Ear Nose and Throat, Otolaryngologist
Abbreviation: N/A
Definition: A medical specialist who diagnoses and treats disorders of the ear, nose, throat, head and neck.
Reference: Retrieved from <http://www.merriam-webster.com/medical/ent>
- Term:** Entrain
Abbreviation: N/A
Definition: To modify the phase or period of an intrinsic circadian rhythm, or biological clock, in order to align with external environmental cues, such as light.
Reference: Glossary (2012). In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 639). Philadelphia: Lippincott Williams & Wilkins.
- Term:** Enuresis
Abbreviation: N/A
Definition: Recurrent, involuntary bedwetting during sleep in a child older than 5 years of age.
Reference: Eckhardt, W., Mattice, C. (2012) Parasomnias. In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 131). Philadelphia: Lippincott Williams & Wilkins.
- Term:** Epoch
Abbreviation: N/A
Definition: A segment of time during a polysomnogram (recording), the most common epoch length is 30 seconds.
Reference: Whitmore, H. (2012). Adult sleep scoring. In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 360). Philadelphia: Lippincott Williams & Wilkins.
- Term:** Epworth Sleepiness Scale
Abbreviation: ESS
Definition: A measurement tool for determining subjective sleepiness. The chance of falling asleep in eight different situations is scored on a scale from 0 to 3, and totaled to get an overall sleepiness rating.
Reference: Glossary (2012). In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 639). Philadelphia: Lippincott Williams & Wilkins.

- Term:** Excessive Daytime Sleepiness
Abbreviation: EDS
Definition: The experience of persistent sleepiness that is often not resolved with adequate sleep. EDS is often the presenting complaint in the sleep clinic.
Reference: Glossary (2012). In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 639). Philadelphia: Lippincott Williams & Wilkins.
- Term:** Expiratory Positive Airway Pressure
Abbreviation: EPAP
Definition: Positive air pressure delivered during the expiratory phase of respiration.
Reference: Yvanauskas, C., Whitmore, H., Rosenberg, R. (2012). Titration of continuous positive airway Pressure and application and adjustment of positive airway pressure devices. In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 416). Philadelphia: Lippincott Williams & Wilkins.
- Term:** Functional Outcomes of Sleep Questionnaire
Abbreviation: FOSQ
Definition: Clinically validated, self-reporting measurement designed to assess the improvement of excessive sleepiness, based on multiple activities of daily living.
Reference: Trimble, M., Zumstein, R. (2012). Developing and maintaining therapeutic compliance. In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 428). Philadelphia: Lippincott Williams & Wilkins
- Term:** Gastroesophageal Reflux Disease
Abbreviation: GERD
Definition: Gastric juices flow backward (i.e. reflux) from the stomach through the lower esophageal sphincter (LES) and into the esophagus during sleep.
Reference: Patrick, R. (2012). General human physiology for the sleep technologist. In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 84). Philadelphia: Lippincott Williams & Wilkins.
- Term:** Health Insurance Portability and Accountability Act
Abbreviation: HIPAA
Definition: Enacted by Congress in 1996 to amend the Internal Revenue Code of 1986 to improve portability and continuity of health insurance coverage in group and individual markets. Among this acts many standards is that of a patient's "right to privacy".
Reference: Retrieved from <http://www.hhs.gov/ocr/hipaa/>
- Term:** High Frequency Filter
Alternate
Term: Low Pass Filter
Abbreviation: HFF
Definition: A filter used to attenuate signals above the cut-off frequency. Usually described in hertz (Hz) or cycles per second (CPS). At a particular setting, frequencies at or above the cut-off frequency will be attenuated with increasing degree dependant on the frequency response curve.
Reference: Walther, F. (2012). Digital polysomnography. In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 428). Philadelphia: Lippincott Williams & Wilkins.

- Term:** Hertz
Alternate
Term: Frequency, Cycles Per Second
Abbreviation: Hz
Definition: Measure of signal frequency in cycles per second.
Reference: Walther, F. (2012). Digital polysomnography. In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 279). Philadelphia: Lippincott Williams & Wilkins.
- Term:** Home Sleep Apnea Testing
Abbreviation: HSAT
Definition: A limited polysomnographic recording performed outside of the sleep center that meets minimum criteria for CPT codes 95800, 95801 or 95806.
Reference: Berry RB, Brooks R, Gamaldo CE, Harding SM, Lloyd RM, Marcus CL and Vaughn BV for the American Academy of Sleep Medicine. *The AASM Manual for the Scoring of Sleep and Associated Events: Rules, Terminology and Technical Specifications, Version 2.3.* www.aasmnet.org. Darien, IL: American Academy of Sleep Medicine, 2016.
- Term:** Hypercapnia
Abbreviation: N/A
Definition: Elevation of the arterial carbon-dioxide tension (PaCO₂) above 45mm Hg, the generally accepted upper limit of normality for adults.
Reference: American Academy of Sleep Medicine. *International classification of sleep disorders, 3rd ed.* Darien, IL: American Academy of Sleep Medicine, 2014.
- Term:** Hypersomnia
Abbreviation: N/A
Definition: Increased tendency or need to fall asleep.
Reference: American Academy of Sleep Medicine. *International classification of sleep disorders, 3rd ed.* Darien, IL: American Academy of Sleep Medicine, 2014.
- Term:** Hypocretin
Abbreviation: N/A
Definition: A hypothalamic neurotransmitter found in the cerebral spinal fluid that is responsible for producing and sustaining wakefulness. Regulates wakefulness in REM sleep as well as appetite and energy expenditure. A lack of hypocretin can account for the excessive daytime sleepiness in cataplectic attacks seen in narcolepsy; also referred to as orexin.
Reference: Glossary (2012). In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 640). Philadelphia: Lippincott Williams & Wilkins.
- Term:** Hypnagogic Hallucinations
Abbreviation: N/A
Definition: Vivid dreamlike images or sounds that occur at sleep onset during the progression from wakefulness to sleep.
Reference: Glossary (2012). In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 640). Philadelphia: Lippincott Williams & Wilkins

Term: Hypnagogic Hypersynchrony
Abbreviation: N/A
Definition: Paroxysmal bursts or runs of diffuse, high-amplitude, sinusoidal 75 to 350 μ V, 3 – 4.5 Hz waves which begin abruptly and are usually widely distributed but often maximal over the central, frontal, or frontocentral scalp regions.
Reference: Berry RB, Brooks R, Gamaldo CE, Harding SM, Lloyd RM, Marcus CL and Vaughn BV for the American Academy of Sleep Medicine. *The AASM Manual for the Scoring of Sleep and Associated Events: Rules, Terminology and Technical Specifications, Version 2.3.* www.aasmnet.org. Darien, IL: American Academy of Sleep Medicine, 2016.

Term: Hypnogram
Abbreviation: N/A
Definition: A graphical representation of sleep stages which occur throughout the night.
Reference: Berry RB, Brooks R, Gamaldo CE, Harding SM, Lloyd RM, Marcus CL and Vaughn BV for the American Academy of Sleep Medicine. *The AASM Manual for the Scoring of Sleep and Associated Events: Rules, Terminology and Technical Specifications, Version 2.3.* www.aasmnet.org. Darien, IL: American Academy of Sleep Medicine, 2016.

Term: Hypnopompic Hallucinations
Abbreviation: N/A
Definition: Vivid dreamlike images or sounds that occur at awakening during the progression from sleep to wakefulness.
Reference: Glossary (2012). In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 640). Philadelphia: Lippincott Williams & Wilkins.

Term: Hypopnea
Abbreviation: N/A
Definition: A specified reduction in airflow lasting at least 10 seconds in adults or the equivalent of two breaths in children with associated O₂ desaturation or arousal.
Reference: Glossary (2012). In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 641). Philadelphia: Lippincott Williams & Wilkins.

Term: Hypothalamus
Abbreviation: N/A
Definition: A basal part of the diencephalon that lies beneath the thalamus on each side, forms the floor of the third ventricle, and includes vital autonomic regulatory centers.
Reference: Retrieved from <http://www.merriam-webster.com/dictionary/hypothalamus>

Term: Hypoventilation
Abbreviation: N/A
Definition: Unusually slow and shallow breathing that can lead to a buildup of CO₂ in the blood.
Reference: Glossary (2012). In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 641). Philadelphia: Lippincott Williams & Wilkins.

Term: Hypoxemia
Abbreviation: N/A
Definition: An abnormally low amount of oxygen in the blood; usually refers to arterial blood.
Reference: Glossary (2012). In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 641). Philadelphia: Lippincott Williams & Wilkins.

- Term:** Hypoxia
Abbreviation: N/A
Definition: O₂ levels below the control point, signaling the respiratory control system to compensate with increased ventilation.
Reference: Glossary (2012). In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 641). Philadelphia: Lippincott Williams & Wilkins.
- Term:** Idiopathic Hypersomnia
Alternate
Term: Idiopathic CNS Hypersomnolence, NREM Narcolepsy
Abbreviation: N/A
Definition: A dyssomnia of unknown cause characterized by constant and severe excessive sleepiness. This disorder is classified into two separate diagnoses according to the patient's sleep time: Idiopathic Hypersomnia with Long Sleep Time; and Idiopathic Hypersomnia without Long Sleep Time.
Reference: American Academy of Sleep Medicine. *International classification of sleep disorders, 3rd ed.* Darien, IL: American Academy of Sleep Medicine, 2014.
- Term:** Impedance
Abbreviation: N/A
Definition: An electrical circuit opposition to the flow of alternating current by the combination of resistance and capacitance.
Reference: Glossary (2012). In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 641). Philadelphia: Lippincott Williams & Wilkins.
- Term:** Inion
Abbreviation: N/A
Definition: One of four standard landmarks used to facilitate the measuring process in the 10-20 system. A bony cranial protuberance in the lower occipital region, the inion is the ridge or knob at the back of the head.
Reference: Leary, E. (2012). Patient preparation. In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 315). Philadelphia: Lippincott Williams & Wilkins.
- Term:** Insomnia
Abbreviation: N/A
Definition: Difficulty in initiating and/or maintaining sleep. A term that is employed ubiquitously to indicate any and all gradations and types of sleep loss.
Reference: Bell, E. (2012). Insomnia. In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 118). Philadelphia: Lippincott Williams & Wilkins.
- Term:** Inspiratory Phase
Abbreviation: N/A
Definition: Part of the ventilatory cycle, comprised of initiation of inspiratory flow to the beginning of expiratory flow.
Reference: MacIntyre, N.R. & Branson, R.D. (2009). *Mechanical ventilation, 2nd ed.* (p. 477). Philadelphia: Saunders Elsevier.

Term: Inspiratory Positive Airway Pressure

Abbreviation: IPAP

Definition: The pressure in the patient circuit measured during inspiration. A pressure setting that is set during bilevel positive airway pressure ventilation that controls pressure delivery during inspiration.

Reference: Harris, N. & Javaheri, S. (2012). Advanced PAP therapies. In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 445). Philadelphia: Lippincott Williams & Wilkins.

Term: Inspiratory Positive Airway Pressure Minimum

Abbreviation: IPAP min

Definition: A setting on the brand specific ASV, BiPAP autoSV, which equates to the minimum inspiratory pressure.

Reference: Harris, N. & Javaheri, S. (2012). Advanced PAP therapies. In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 447). Philadelphia: Lippincott Williams & Wilkins.

Term: Inspiratory Positive Airway Pressure Maximum

Abbreviation: IPAP max

Definition: A setting on the brand specific ASV, BiPAP autoSV, which equates to the maximum inspiratory pressure.

Reference: Harris, N. & Javaheri, S. (2012). Advanced PAP therapies. In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 447). Philadelphia: Lippincott Williams & Wilkins.

Term: Intercostal Muscle

Abbreviation: N/A

Definition: The muscles that occupy the region between the ribs. These regions can be used as an electrode placement to measure electromyography for respiratory effort.

Reference: Richard, C. (2012). Respiratory anatomy and physiology. In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 50). Philadelphia: Lippincott Williams & Wilkins.

Term: International 10-20 System of Electrode Placement

Abbreviation: N/A

Definition: The International 10-20 System of Electrode Placement is a standardized method for identifying equally spaced electrode positions on the scalp, based on four identifiable skull landmarks. This method was developed in 1958 to provide a consistent procedure for collecting EEG data and to develop a common terminology. The system is termed 10-20 because most measurements are spaced either 10% or 20% of the distance between a given pair of skull landmarks.

Reference: Leary, E. (2012). Patient preparation. In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 314). Philadelphia: Lippincott Williams & Wilkins.

Term: International Classification of Sleep Disorders

Abbreviation: ICSD, ICSD-2, ICSD-3

Definition: First published in 1979, the 2005 revised edition (ICSD-2) describes more than eighty-five diagnoses. *Note – the current version is the ICSD-3, published in 2014.

Reference: Keenan, S., Foster, R. (2012). Modern sleep medicine. In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 10). Philadelphia: Lippincott Williams & Wilkins.

Term: Junctional Arrhythmias

Abbreviation: N/A

Definition: Junctional arrhythmias can occur if the AV nodal tissue fires prematurely or if the atrial mechanism for initiating the cardiac cycle fails. Junctional arrhythmias feature normal-appearing QRS complexes. When P waves are seen, they will be inverted and can occur before or after the QRS complex. This category of arrhythmias includes premature junctional contraction (PJC), junctional and accelerated junctional rhythm and junctional tachycardia.

Reference: Atkinson, J. (2012). Cardiac arrhythmias. In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (pp. 348-350). Philadelphia: Lippincott Williams & Wilkins.

Term: K-Complex

Abbreviation: N/A

Definition: A well-delineated negative sharp wave immediately followed by a positive component standing out from the background EEG, with total duration ≥ 0.5 seconds usually maximal in amplitude when recorded using frontal derivations.

Reference: Berry RB, Brooks R, Gamaldo CE, Harding SM, Lloyd RM, Marcus CL and Vaughn BV for the American Academy of Sleep Medicine. *The AASM Manual for the Scoring of Sleep and Associated Events: Rules, Terminology and Technical Specifications, Version 2.3.* www.aasmnet.org. Darien, IL: American Academy of Sleep Medicine, 2016.

Term: Landau-Kleffner Syndrome

Abbreviation: N/A

Definition: A childhood epilepsy syndrome characterized by loss of language skills with acquired verbal auditory agnosia and spike and wave discharges mainly localized over the centrotemporal regions.

Reference: Campbell, D., Davis, D. (2012). Seizures and sleep. In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 196). Philadelphia: Lippincott Williams & Wilkins.

Term: Lennox-Gastaut Syndrome

Abbreviation: N/A

Definition: A syndrome of intractable seizures, mental retardation and the presence of generalized slow spike-wave complexes at a frequency of 2.5 Hz or less.

Reference: Campbell, D., Davis, D. (2012). Seizures and sleep. In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 193). Philadelphia: Lippincott Williams & Wilkins.

Term: Low Frequency Filter

Alternate

Term: High Pass Filter

Abbreviation: LFF

Definition: A filter used to set a lower limit of frequencies that are let into the recording. Usually described in hertz (Hz) or cycles per second (cps). Only signals with frequencies above that limit, called the cut off frequency, are allowed to pass.

Reference: Walther, F. (2012). Digital polysomnography. In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 280). Philadelphia: Lippincott Williams & Wilkins.

Term: Maintenance of Wakefulness Test

Abbreviation: MWT

Definition: A series of measurements of the interval from “lights out” to sleep onset that are used in the assessment of an individual’s ability to remain awake. Subjects are instructed to try to remain awake in a darkened room while in a semi reclined position. Long latencies to sleep are indicative of the ability to remain awake. This test is most useful for assessing the effects of sleep disorders or of medication upon the ability to remain awake.

Reference: Giacomini, A., Tognoli, R., Hydes, N. (2012). Narcolepsy. In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 111). Philadelphia: Lippincott Williams & Wilkins.

Term: Major Body Movement

Abbreviation: N/A

Definition: Movement and muscle artifact obscuring the EEG for more than half an epoch to the extent that the sleep stage cannot be determined.

Reference: Berry RB, Brooks R, Gamaldo CE, Harding SM, Lloyd RM, Marcus CL and Vaughn BV for the American Academy of Sleep Medicine. *The AASM Manual for the Scoring of Sleep and Associated Events: Rules, Terminology and Technical Specifications, Version 2.3.* www.aasmnet.org. Darien, IL: American Academy of Sleep Medicine, 2016.

Term: Masseter

Abbreviation: N/A

Definition: A large muscle that raises the lower jaw and assists in mastication.

Reference: <http://www.merriam-webster.com/dictionary/masseter>

Term: Melatonin

Abbreviation: N/A

Definition: Secretory product of the pineal gland used to maintain the circadian rhythm and regulate other hormones.

Reference: Glossary (2012). In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 642). Philadelphia: Lippincott Williams & Wilkins.

Term: Microvolt

Abbreviation: μV

Definition: One millionth of a volt. This is a standard unit of measurement used for reading and recording polysomnographic waves.

Reference: Retrieved from <http://www.merriam-webster.com/medical/microvolt>

Term: Mixed Apnea

Abbreviation: MA

Definition: An apnea that is associated with absent inspiratory effort in the initial portion of the event, followed by resumption of inspiratory effort in the second portion of the event.

Reference: Glossary (2012). In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 642). Philadelphia: Lippincott Williams & Wilkins.

Term: Monitoring Time

Abbreviation: MT

Definition: Total recording time minus periods of artifact and time the patient was awake as determined by actigraphy, body position sensor, respiratory pattern, or patient diary.

Reference: Berry RB, Brooks R, Gamaldo CE, Harding SM, Lloyd RM, Marcus CL and Vaughn BV for the American Academy of Sleep Medicine. *The AASM Manual for the Scoring of Sleep and Associated Events: Rules, Terminology and Technical Specifications, Version 2.3*. www.aasmnet.org. Darien, IL: American Academy of Sleep Medicine, 2016.

Term: Montage

Abbreviation: N/A

Definition: The arrangement of the recording channel selections and their settings.

Reference: Leary, E. (2012). Polysomnographic recording procedures. In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 326). Philadelphia: Lippincott Williams & Wilkins.

Term: Multiple Sleep Latency Test

Abbreviation: MSLT

Definition: A measure of “manifest sleep tendency” consisting of five opportunities to fall asleep at regular intervals during the day. The amount of time taken to fall asleep (sleep latency) and sleep stages attained are typically reported. Two or more episodes of REM sleep occurring within 15 minutes of sleep onset (SOREMPs) are supportive of a diagnosis of narcolepsy.

Reference: Giacomini, A., Tognoli, R., Hydes, N. (2012). Narcolepsy. In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 111). Philadelphia: Lippincott Williams & Wilkins.

Term: Mu Rhythm

Abbreviation: N/A

Definition: EEG activity with an arch like morphology in the 7 to 11 Hz range, commonly 9 Hz. It has unique reactivity that is blocked by real or imagined movement or tactile stimulation.

Reference: Tyner, F., Knott, J., & Mayer, W. (1983). *Fundamentals of EEG technology, Vol.1: Basic concepts and methods* (p. 205). New York: Raven Press.

Term: Maintenance of Wakefulness Test

Abbreviation: MWT

Definition: Consists of four 40-minute trials each separated by 2 hours. Measures the ability to resist the urge to fall asleep.

Reference: Moore, D., Thomas, S.J. (2012). Multiple sleep latency test and maintenance of wakefulness test. In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 471). Philadelphia: Lippincott Williams & Wilkins.

Term: Myoclonus

Abbreviation: N/A

Definition: Involuntary twitching of a muscle or a group of muscles.

Reference: Glossary (2012). In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 642). Philadelphia: Lippincott Williams & Wilkins.

Term: Narcolepsy
Abbreviation: N/A
Definition: A chronic neurological disorder characterized by excessive daytime sleepiness (EDS) despite a restful night of sleep and sudden and uncontrollable attacks of sleep that are sometimes accompanied by hallucinations and paralysis (atonia).
Reference: Glossary (2012). In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 642). Philadelphia: Lippincott Williams & Wilkins.

Term: Narrow Complex Tachycardia
Abbreviation: N/A
Definition: A rhythm lasting a minimum of 3 consecutive beats at a rate of greater than 100 beats per minute with QRS duration of less than 120 milliseconds.
Reference: Berry RB, Brooks R, Gamaldo CE, Harding SM, Lloyd RM, Marcus CL and Vaughn BV for the American Academy of Sleep Medicine. *The AASM Manual for the Scoring of Sleep and Associated Events: Rules, Terminology and Technical Specifications, Version 2.3.* www.aasmnet.org. Darien, IL: American Academy of Sleep Medicine, 2016.

Term: Nasion
Abbreviation: N/A
Definition: One of four standard landmarks used to facilitate the measuring process in the 10-20 system. The nasion is the indentation between the forehead and the nose.
Reference: Leary, E. (2012). Patient preparation. In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 315). Philadelphia: Lippincott Williams & Wilkins.

Term: Nightmare
Abbreviation: N/A
Definition: A frightening dream that occurs during REM sleep.
Reference: Eckhardt, W., Mattice, C. (2012). Parasomnias. In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 131). Philadelphia: Lippincott Williams & Wilkins.

Term: Nocturia
Abbreviation: N/A
Definition: Urination at night especially when excessive.
Reference: Retrieved from <http://www.merriam-webster.com/dictionary/nocturia>

Term: Nocturnal
Abbreviation: N/A
Definition: Of, relating to, or occurring at night.
Reference: Retrieved from <http://www.merriam-webster.com/dictionary/nocturnal>

Term: Non-REM
Abbreviation: NREM
Definition: All sleep stages that are not rapid eye movement (REM) sleep. This would include Stages N1, N2, and N3.
Reference: Berry RB, Brooks R, Gamaldo CE, Harding SM, Lloyd RM, Marcus CL and Vaughn BV for the American Academy of Sleep Medicine. *The AASM Manual for the Scoring of Sleep and Associated Events: Rules, Terminology and Technical Specifications, Version 2.3.* www.aasmnet.org. Darien, IL: American Academy of Sleep Medicine, 2016.

Term: Notch Filter

Abbreviation: N/A

Alternate

Term: 50/60 Hz Filter

Definition: A filter used to eliminate noise caused by power line interference on the record, otherwise known as 60 Hz in the United States.

Reference: Walther, F. (2012). Digital polysomnography. In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 281). Philadelphia: Lippincott Williams & Wilkins.

Term: Nyquist Theory

Abbreviation: N/A

Definition: Theory that states that the minimum sampling rate must be twice the rate of the highest frequency sampled in order to adequately resolve the signal and prevent aliasing.

Reference: Glossary (2012). In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 642). Philadelphia: Lippincott Williams & Wilkins.

Term: Oxygen

Abbreviation: O₂

Definition: A reactive element that is found in water, in most rocks and minerals, in numerous organic compounds, and as a colorless tasteless odorless diatomic gas constituting 21 percent of the atmosphere, that is capable of combining with all elements except the inert gases, that is active in physiological processes, and that is involved especially in combustion.

Reference: Retrieved from <http://www.merriam-webster.com/dictionary/oxygen>

Term: Obesity Hypoventilation Syndrome

Abbreviation: OHS

Definition: Sleep disordered breathing characterized by obesity, hypoventilation and hypercapnia resulting in reduction in the oxygen content or increase in the carbon dioxide content of the blood or both.

Reference: American Academy of Sleep Medicine. *International classification of sleep disorders, 3rd ed.* Darien, IL: American Academy of Sleep Medicine, 2014.

Term: Obstructive Apnea

Abbreviation: OA

Definition: An apnea that meets the required criteria and is associated with continued or increased inspiratory effort throughout the entire period of absent airflow.

Reference: Berry RB, Brooks R, Gamaldo CE, Harding SM, Lloyd RM, Marcus CL and Vaughn BV for the American Academy of Sleep Medicine. *The AASM Manual for the Scoring of Sleep and Associated Events: Rules, Terminology and Technical Specifications, Version 2.3.* www.aasmnet.org. Darien, IL: American Academy of Sleep Medicine, 2016.

Term: Obstructive Hypopnea

Abbreviation: OH

Definition: A reduction in airflow with a minimum amplitude drop of equal to or greater than 30% of pre event baseline and minimum duration of equal to or greater than 10 seconds for adults and minimum amplitude drop of equal to or greater than 30% of pre event baseline and minimum duration of equal to or greater than two breaths for children. If snoring, increase of inspiratory flattening of the nasal pressure compared to the baseline and/or an associated thoracoabdominal paradox occurs during the event but not during pre-event breathing score the event as an obstructive hypopnea. The criteria used to score a respiratory event as hypopnea (either rule 1A or 1B) should be specified in the PSG report.

Reference: Berry RB, Brooks R, Gamaldo CE, Harding SM, Lloyd RM, Marcus CL and Vaughn BV for the American Academy of Sleep Medicine. *The AASM Manual for the Scoring of Sleep and Associated Events: Rules, Terminology and Technical Specifications, Version 2.3.* www.aasmnet.org. Darien, IL: American Academy of Sleep Medicine, 2016.

Term: Ohm

Abbreviation: Ω

Definition: A measure of the resistance to the flow of electricity.

Reference: Glossary (2012). In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 642). Philadelphia: Lippincott Williams & Wilkins.

Term: Ohm's Law

Abbreviation: N/A

Definition: A law in electricity which states that the strength or intensity of an unvarying electric current is directly proportional to the electromotive force and inversely proportional to the resistance of the circuit.

Reference: Glossary (2012). In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 643). Philadelphia: Lippincott Williams & Wilkins.

Term: Oscillator

Abbreviation: N/A

Definition: A device or mechanism for producing or controlling oscillations; especially one for producing an alternating current.

Reference: Retrieved from <http://www.merriam-webster.com/dictionary/oscillator>

Term: Outer Canthus

Abbreviation: N/A

Definition: The outer corner of the eye, utilized as a landmark for the placement of EOG electrodes.

Reference: Berry RB, Brooks R, Gamaldo CE, Harding SM, Lloyd RM, Marcus CL and Vaughn BV for the American Academy of Sleep Medicine. *The AASM Manual for the Scoring of Sleep and Associated Events: Rules, Terminology and Technical Specifications, Version 2.3.* www.aasmnet.org. Darien, IL: American Academy of Sleep Medicine, 2016.

Term: Overlap Syndrome

Abbreviation: N/A

Definition: A term used for patients with coexisting COPD and OSA.

Reference: Krupski, T. (2012). Sleep and medical disorders. In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 203). Philadelphia: Lippincott Williams & Wilkins.

Term: Oxygen Saturation
Abbreviation: SpO₂
Definition: Oxygen saturation, as measured by a pulse oximeter, is related to the pressure of oxygen in the blood by the oxyhemoglobin dissociation curve.
Reference: Yvanauskas, C., Whitmore, H., Rosenberg, R. (2012). Titration of continuous positive airway Pressure and application and adjustment of positive airway pressure devices. In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 414). Philadelphia: Lippincott Williams & Wilkins.

Term: Parasomnia
Abbreviation: N/A
Definition: An undesirable physical phenomena that occur predominantly or exclusively during the sleep period. Parasomnias have been classified into three groups by the International Classification of Sleep Disorders (ICSD), 3rd ed: NREM Related Parasomnias, REM Related Parasomnias and Other Parasomnias.
Reference: American Academy of Sleep Medicine. *International classification of sleep disorders, 3rd ed.* Darien, IL: American Academy of Sleep Medicine, 2014.

Term: Periodic Breathing
Abbreviation: N/A
Definition: Greater than or equal to 3 episodes of central pauses in respiration (absent airflow and inspiratory effort) lasting greater than 3 seconds separated by equal to or less than 20 seconds of normal breathing in children.
Reference: Berry RB, Brooks R, Gamaldo CE, Harding SM, Lloyd RM, Marcus CL and Vaughn BV for the American Academy of Sleep Medicine. *The AASM Manual for the Scoring of Sleep and Associated Events: Rules, Terminology and Technical Specifications, Version 2.3.* www.aasmnet.org. Darien, IL: American Academy of Sleep Medicine, 2016.

Term: Periodic Limb Movements of Sleep
Abbreviation: PLMS
Definition: Movements of the limbs during sleep occurring with a specified frequency, duration, and amplitude.
Reference: Berry RB, Brooks R, Gamaldo CE, Harding SM, Lloyd RM, Marcus CL and Vaughn BV for the American Academy of Sleep Medicine. *The AASM Manual for the Scoring of Sleep and Associated Events: Rules, Terminology and Technical Specifications, Version 2.3.* www.aasmnet.org. Darien, IL: American Academy of Sleep Medicine, 2016.

Term: Periodic Limb Movement Disorder
Abbreviation: PLMD
Definition: A disorder that is characterized by periodic episodes of repetitive, highly stereotyped, limb movements that occur during sleep (PLMS) and by clinical sleep disturbances that cannot be accounted for by another primary sleep disorder.
Reference: American Academy of Sleep Medicine. *International classification of sleep disorders, 3rd ed.* Darien, IL: American Academy of Sleep Medicine, 2014.

Term: Piezo-Electric Sensor

Abbreviation: N/A

Definition: Sensors consisting of Piezo-crystals which generate small voltages in response to stress or movements.

Reference: Leary, E. (2012). Patient preparation. In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 319). Philadelphia: Lippincott Williams & Wilkins.

Term: Polarity

Abbreviation: N/A

Definition: The condition of having positive and negative charges and especially magnetic or electrical poles. In electroencephalography and polysomnography negative voltages deflect up.

Reference: Retrieved from <http://www.merriam-webster.com/dictionary/polarity>

Term: Positive Airway Pressure

Abbreviation: PAP

Definition: The delivery of positive air pressure forming a pneumatic splint of the upper airway.

Reference: Yvanauskas, C., Whitmore, H., Rosenberg, R. (2012). Titration of continuous positive airway Pressure and application and adjustment of positive airway pressure devices. In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 411). Philadelphia: Lippincott Williams & Wilkins.

Term: Polysomnogram

Abbreviation: PSG

Definition: A record of physiological variables during sleep obtained by polysomnography.

Reference: Whitmore, H. (2012). Adult sleep scoring. In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 360). Philadelphia: Lippincott Williams & Wilkins.

Term: Positive Occipital Sharp Transients of Sleep

Abbreviation: POSTS

Definition: A series of surface positive transient waveforms seen prominently in the occipital area in some subjects. They are normal.

Reference: Tyner, F., Knott, J., & Mayer, W. (1983). *Fundamentals of EEG technology, Vol.1: Basic concepts and methods* (p. 210). New York: Raven Press.

Term: Preauricular Point

Abbreviation: N/A

Definition: A point that is situated or occurring anterior to the auricle of the ear. In polysomnography this is the anatomical point lateral to the cartilaginous protrusion at mid ear that is used as a reference point in the 10-20 System for electrode placement.

Reference: Leary, E. (2012) Patient preparation. In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 314). Philadelphia: Lippincott Williams & Wilkins.

Term: Premature Atrial Contraction

Abbreviation: PAC

Definition: A common arrhythmia that produces premature P waves, with normal QRS morphology and normal T waves.

Reference: Glossary (2012). In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 644). Philadelphia: Lippincott Williams & Wilkins.

Term: Premature Ventricular Contractions
Abbreviation: PVC
Definition: A common arrhythmia that is produced when a contraction signal originates in the ventricle of the heart. This arrhythmia has an absent P wave and an early and wide and/or aberrant QRS with a compensatory pause.
Reference: Glossary (2012). In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 644). Philadelphia: Lippincott Williams & Wilkins.

Term: Pressure Support
Abbreviation: N/A
Definition: The IPAP and EPAP are adjusted to maintain upper airway patency and the IPAP-EPAP difference provides pressure support (PS) to augment tidal volume.
Reference: Harris, N. & Javaheri, S. (2012). Advanced PAP therapies. In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 447). Philadelphia: Lippincott Williams & Wilkins.

Term: Pressure Transducer
Abbreviation: N/A
Definition: A pressure transducer that measures the pressure (relative to atmospheric pressure) inside the nasal orifice using a nasal cannula. The pressure difference across the nasal inlet during breathing is proportional to the magnitude of airflow squared. A square root transformation of the nasal pressure signal is proportional to airflow. The inspiratory waveform of the nasal pressure signal exhibits a flattened pattern during airflow limitation provided the signal from the transducer is recorded as a DC signal or as an AC signal with an appropriate low filter setting.
Reference: American Academy of Sleep Medicine. *International classification of sleep disorders, 3rd ed.* Darien, IL: American Academy of Sleep Medicine, 2014.

Term: Pulse Oximeter
Abbreviation: N/A
Definition: A device that monitors changes in the color of the blood capillaries to estimate the oxygen in the blood. This is done with a sensor which is usually attached to the patient's finger, the signal averaging time must be less than 3 seconds. Can detect hypoxemia and related events.
Reference: Gali, B., Gay, P. (2012). Preoperative assessment and perioperative monitoring. In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 270). Philadelphia: Lippincott Williams & Wilkins.

Term: Pulse Transit Time
Abbreviation: PTT
Definition: Pulse transit time measures the time it takes for the arterial pulse pressure wave to travel from the aortic valve to the periphery. PTT increases during the inspiratory fall in blood pressure and decreases during arousal induced increases in blood pressure.
Reference: Balog, M., Sheldon, S., Loghmanee, D. (2012). Parasomnias in children. In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 546). Philadelphia: Lippincott Williams & Wilkins.

Term: PVDF Sensor
Abbreviation: N/A
Definition: Polyvinylidene fluoride (PVDF) Im is a fluoropolymer substance that reacts to changes in temperature when used as a thermal airflow sensor and to impedance changes when used as an effort sensor.
Reference: Berry RB, Brooks R, Gamaldo CE, Harding SM, Lloyd RM, Marcus CL and Vaughn BV for the American Academy of Sleep Medicine. *The AASM Manual for the Scoring of Sleep and Associated Events: Rules, Terminology and Technical Specifications, Version 2.3.* www.aasmnet.org. Darien, IL: American Academy of Sleep Medicine, 2016.

Term: QRS Complex
Abbreviation: QRS
Definition: The EEG waveform that represents ventricular depolarization and atrial repolarization.
Reference: Glossary (2012). In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 644). Philadelphia: Lippincott Williams & Wilkins.

Term: Rapid Eye Movement
Abbreviation: REM
Definition: Conjugate, irregular, sharply peaked eye movements with an initial deflection usually lasting <500 msec. These eye movements are characteristic of Stage R sleep, but are not always present in that stage.
Reference: Berry RB, Brooks R, Gamaldo CE, Harding SM, Lloyd RM, Marcus CL and Vaughn BV for the American Academy of Sleep Medicine. *The AASM Manual for the Scoring of Sleep and Associated Events: Rules, Terminology and Technical Specifications, Version 2.3.* www.aasmnet.org. Darien, IL: American Academy of Sleep Medicine, 2016.

Term: Rapid Eye Movement Sleep
Alternate
Term: REM sleep, Stage R
Abbreviation: N/A
Definition: Sleep that is characterized by low amplitude, mixed frequency EEG activity and sometimes sawtooth waves; low chin EMG tone; and rapid eye movements. This sleep stage is associated with dreaming.
Reference: Berry RB, Brooks R, Gamaldo CE, Harding SM, Lloyd RM, Marcus CL and Vaughn BV for the American Academy of Sleep Medicine. *The AASM Manual for the Scoring of Sleep and Associated Events: Rules, Terminology and Technical Specifications, Version 2.3.* www.aasmnet.org. Darien, IL: American Academy of Sleep Medicine, 2016.

Term: Reference Electrode
Abbreviation: N/A
Definition: The reference electrodes M₁ and M₂ are placed over the mastoid process (bone behind the earlobe). The electrodes should be placed on the skin between the crease of the earlobe and where the hairline begins. To decrease artifacts, the sensors should be placed over the flattest and boniest area. M₁ is placed behind the left ear and M₂ is behind the right ear.
Reference: Leary, E. (2012). Patient preparation. In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 316). Philadelphia: Lippincott Williams & Wilkins.

Term: Referential Derivation

Abbreviation: N/A

Definition: An exploring electrode referenced to a reference electrode in a relatively inactive location. Example: The signal derived by comparing C₃ to M₂.

Reference: Leary, E. (2012). Patient preparation. In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 316). Philadelphia: Lippincott Williams & Wilkins.

Term: REM Sleep Behavior Disorder

Abbreviation: RBD

Definition: REM sleep behavior disorder is characterized by a paradoxical increase in muscle tone and frequent limb movements during REM sleep, elaborate, purposeful movements, vocalizations, and occasionally violent behaviors such as punching, kicking, and/or leaping out of bed. The motor activity is associated with dream recall as patients seem to be acting out their dreams.

Reference: Glossary (2012). In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 644). Philadelphia: Lippincott Williams & Wilkins.

Term: Respiratory Disturbance Index

Abbreviation: RDI

Definition: The number of apneas, hypopneas and RERAs per hour of sleep.

Reference: Glossary (2012). In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 644). Philadelphia: Lippincott Williams & Wilkins.

Term: Respiratory Effort

Abbreviation: N/A

Definition: Monitored using belts that are placed around the chest and abdomen attached to a sensor that generates a respiratory effort signal that provides an indirect representation of respiratory effort based on chest and abdominal movement.

Reference: Leary, E. (2012) Patient Preparation, In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 319). Philadelphia: Lippincott Williams & Wilkins.

Term: Respiratory Effort-Related Arousal

Abbreviation: RERA

Definition: A sequence of breaths characterized by increasing respiratory effort (esophageal manometry); inspiratory flattening in the nasal pressure or PAP device flow channel; or an increase in end-tidal PCO₂ (children) leading to an arousal from sleep. Respiratory effort related arousals do not meet criteria for a hypopnea and have a minimum duration greater than or equal to 10 seconds in adults or the duration of at least two breaths in children.

Reference: American Academy of Sleep Medicine. *International classification of sleep disorders, 3rd ed.* Darien, IL: American Academy of Sleep Medicine, 2014.

Term: Respiratory Event

Abbreviation: N/A

Definition: A defined period of abnormal breathing, including apneas, hypopneas, RERAs, and hypoventilation.

Reference: Maher, E., Epstein, L. (2012). Obstructive Sleep Apnea. In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 169). Philadelphia: Lippincott Williams & Wilkins.

- Term:** Respiratory Event Index
Abbreviation: REI
Definition: Total number of respiratory events scored during and HSAT recording $\times 60$ divided by monitoring time (MT).
Reference: Berry RB, Brooks R, Gamaldo CE, Harding SM, Lloyd RM, Marcus CL and Vaughn BV for the American Academy of Sleep Medicine. *The AASM Manual for the Scoring of Sleep and Associated Events: Rules, Terminology and Technical Specifications, Version 2.3.* www.aasmnet.org. Darien, IL: American Academy of Sleep Medicine, 2016.
- Term:** Restless Legs Syndrome
Abbreviation: RLS
Definition: An urge to move legs, usually accompanied by or thought to be caused by uncomfortable and unpleasant sensations in the legs. Symptoms must: begin or worsen during periods of rest or inactivity; be partially or totally relieved by movement, such as walking or stretching, or at least as long as the activity continues; and occurs exclusively or predominantly in the evening rather than during the day.
Reference: American Academy of Sleep Medicine. *International classification of sleep disorders, 3rd ed.* Darien, IL: American Academy of Sleep Medicine, 2014.
- Term:** Respiratory Inductance Plethysmography
Abbreviation: RIP
Definition: A technology that generates a signal based on changes in body circumference associated with breathing. The elastic RIP bands are embedded with wires, woven in a sinusoidal pattern, that encircle the body. An alternating electrical current is applied to the wires, generating an oscillating signal in response to variations in the magnetic fields associated with changes in body circumference.
Reference: Leary, E. (2012). Patient preparation. In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 319). Philadelphia: Lippincott Williams & Wilkins.
- Term:** Rhythmic Anterior Theta Activity
Abbreviation: RAT
Definition: Runs of 5 – 7 Hz rhythmic theta activity maximal over the frontal or frontocentral regions that indicate drowsiness and a progression from wake to stage N1 sleep in adolescents and young adults.
Reference: Glossary (2012). In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 645). Philadelphia: Lippincott Williams & Wilkins.
- Term:** Sawtooth Waves
Abbreviation: N/A
Definition: An EEG pattern consisting of trains of sharply contoured or triangular, often serrated, 2–6 Hz waves maximal in amplitude over the central head regions and often, but not always, preceding a burst of rapid eye movements.
Reference: Berry RB, Brooks R, Gamaldo CE, Harding SM, Lloyd RM, Marcus CL and Vaughn BV for the American Academy of Sleep Medicine. *The AASM Manual for the Scoring of Sleep and Associated Events: Rules, Terminology and Technical Specifications, Version 2.3.* www.aasmnet.org. Darien, IL: American Academy of Sleep Medicine, 2016.
- Term:** Second Degree AV block, Type 1
Alternate

Term: Wenckebach
Abbreviation: N/A
Definition: A block of the AV node causing progressively prolonged PR intervals and resulting in a dropped QRS.
Reference: Atkinson, J. (2012). Cardiac arrhythmias. In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 351). Philadelphia: Lippincott Williams & Wilkins.

Term: Second Degree AV block, Type 2

Alternate

Term: Mobitz II

Abbreviation: N/A

Definition: A block of AV conduction in the His Bundle or Bundle Branches, resulting in a number of P waves without a ventricular (QRS) response.

Reference: Atkinson, J. (2012). Cardiac arrhythmias. In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 351). Philadelphia: Lippincott Williams & Wilkins.

Term: Sensitivity

Abbreviation: Sens or S

Definition: A ratio of input voltage (μV) and output amplitude (mm). $S = V/A$

Reference: Glossary (2012). In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 645). Philadelphia: Lippincott Williams & Wilkins.

Term: Septoplasty

Abbreviation: N/A

Definition: A surgical procedure to correct deformities in the nasal septum.

Reference: Retrieved from <http://www.merriam-webster.com/medical/septoplasty>

Term: Sharp Wave

Abbreviation: N/A

Definition: A fast frequency (70-200 msec.) waveform with a pronounced peak that is recorded in the EEG channels, usually indicating epileptiform activity.

Reference: Tyner, F., Knott, J., & Mayer, W. (1983). *Fundamentals of EEG technology, Vol.1: Basic concepts and methods* (p. 187). New York: Raven Press.

Term: Sinus Arrhythmia

Abbreviation: N/A

Definition: Normal, minimal variations in the SA node's pacing rate pattern in association with respiration. There is a small increase in HR during inspiration and a small decrease during expiration.

Reference: Atkinson, J. (2012). Cardiac arrhythmias. In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 346). Philadelphia: Lippincott Williams & Wilkins.

Term: Sinus Bradycardia

Abbreviation: N/A

Definition: An ECG rhythm during sleep with a sustained heart rate of less than 40/minute for ages 6 through adult.

Reference: Atkinson, J. (2012). Cardiac arrhythmias. In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 344). Philadelphia: Lippincott Williams & Wilkins.

Term: Sinus Pause

Abbreviation: N/A

Definition: A missed pacing stimulus from the SA node producing a pause, during which the heart is electrically silent.

Reference: Atkinson, J. (2012). Cardiac arrhythmias. In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 346). Philadelphia: Lippincott Williams & Wilkins.

Term: Sinus Tachycardia

Abbreviation: N/A

Definition: An ECG rhythm during sleep with a sustained sinus heart rate of greater than 90 beats per minute for adults.

Reference: Atkinson, J. (2012). Cardiac arrhythmias. In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 344). Philadelphia: Lippincott Williams & Wilkins.

Term: 60 Hz Filter

Abbreviation: N/A

Definition: Selectively reduces the amplitude of waves 58 – 62 Hz (60 Hz interference comes from electrical artifact or improperly grounded electrical equipment).

Reference: Walther, F. (2012). Digital polysomnography. In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 281). Philadelphia: Lippincott Williams & Wilkins.

Term: Sleep Architecture

Abbreviation: N/A

Definition: Sleep architecture parameters generally include latencies, summation of time spent in each sleep stage and body position, and the percent of total sleep time spent in each sleep stage.

Reference: Atkinson, J. (2012). Report generation. In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 381). Philadelphia: Lippincott Williams & Wilkins.

Term: Sleep Cycle

Abbreviation: N/A

Definition: The cyclic alternation between NREM sleep and REM sleep representing ultradian processes within sleep.

Reference: Kreinin, I. (2012) Sleep Across the Life Cycle, In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 16). Philadelphia: Lippincott Williams & Wilkins.

Term: Sleep Deprivation

Abbreviation: N/A

Definition: An insufficient duration of sleep (quantitative), a fragmented or interrupted sleep period (qualitative), or a combination of both factors.

Reference: Glossary (2012). In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 645). Philadelphia: Lippincott Williams & Wilkins.

Term: Sleep Diary
Alternate
Term: Sleep Log
Abbreviation: N/A
Definition: A self-reported log of a patient's wake/sleep pattern over a period of time, allowing the physician the ability to view the patient's sleep schedule over a period of time.
Reference: Glossary (2012). In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 645). Philadelphia: Lippincott Williams & Wilkins.

Term: Sleep Disordered Breathing
Alternate
Term:
Abbreviation: SDB
Definition: Patterns of abnormal breathing including snoring, RERAS, hypopneas, and apneas.
Reference: Glossary (2012). In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 645). Philadelphia: Lippincott Williams & Wilkins.

Term: Sleep Efficiency
Abbreviation: N/A
Definition: Percent sleep efficiency = (TST/TRT x 100)
Reference: Berry RB, Brooks R, Gamaldo CE, Harding SM, Lloyd RM, Marcus CL and Vaughn BV for the American Academy of Sleep Medicine. *The AASM Manual for the Scoring of Sleep and Associated Events: Rules, Terminology and Technical Specifications, Version 2.3.* www.aasmnet.org. Darien, IL: American Academy of Sleep Medicine, 2016.

Term: Sleep Enuresis
Alternate
Terms: Enuresis nocturna; nocturnal bedwetting, night wetting
Abbreviation: N/A
Definition: The involuntary voiding of urine during sleep that occurs at least twice a month in a child 5 or older.
Reference: Servidio, K. (2012). Nonrespiratory Pediatric Sleep Disorders. In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 531). Philadelphia: Lippincott Williams & Wilkins.

Term: Sleep Fragmentation
Abbreviation: N/A
Definition: The interruption of sleep with frequent, brief arousals characterized by increases in EEG frequency or bursts of alpha activity and occasionally, transient increase in skeletal muscle tone.
Reference: Glossary (2012). In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 645). Philadelphia: Lippincott Williams & Wilkins.

Term: Sleep Hygiene
Abbreviation: N/A
Definition: The behavioral patterns that is consistent with sleeping well.
Reference: Glossary (2012). In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 645). Philadelphia: Lippincott Williams & Wilkins.

- Term:** Sleep Latency
Abbreviation: N/A
Definition: The time between lights out and sleep onset, defined as the first epoch of any stage of sleep, recorded in minutes.
Reference: Berry RB, Brooks R, Gamaldo CE, Harding SM, Lloyd RM, Marcus CL and Vaughn BV for the American Academy of Sleep Medicine. *The AASM Manual for the Scoring of Sleep and Associated Events: Rules, Terminology and Technical Specifications, Version 2.3.* www.aasmnet.org. Darien, IL: American Academy of Sleep Medicine, 2016.
- Term:** Sleep Onset
Abbreviation: SO
Definition: The start of the first epoch scored as any stage other than stage W. (In most subjects this will usually be the first epoch of stage N1.)
Reference: Berry RB, Brooks R, Gamaldo CE, Harding SM, Lloyd RM, Marcus CL and Vaughn BV for the American Academy of Sleep Medicine. *The AASM Manual for the Scoring of Sleep and Associated Events: Rules, Terminology and Technical Specifications, Version 2.3.* www.aasmnet.org. Darien, IL: American Academy of Sleep Medicine, 2016.
- Term:** Sleep Onset REM Period
Abbreviation: SOREM
Definition: A REM period that occurs during the first 15 minutes of an MSLT nap; two or more SOREMPs on MSLT are highly indicative of narcolepsy.
Reference: Moore, D., Thomas, J. (2012). Multiple Sleep Latency Test and Maintenance of Wakefulness Test. In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 468). Philadelphia: Lippincott Williams & Wilkins.
- Term:** Sleep Paralysis
Abbreviation: N/A
Definition: Inability to move or speak, sometimes accompanied by the sensation of inability to breathe for a few seconds or a few minutes that occurs during the transition from wakefulness to sleep or from sleep to wakefulness.
Reference: Giacomini, A., Tognoli, R., Hydes, N. (2012). Narcolepsy. In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 111). Philadelphia: Lippincott Williams & Wilkins.
- Term:** Sleep Related Eating Disorder
Abbreviation: SRED
Definition: Recurrent episodes of involuntary eating and drinking during arousals from sleep with problematic consequences.
Reference: Uhles, M., Malhotra, R. (2012). Movement disorders. In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 144). Philadelphia: Lippincott Williams & Wilkins.
- Term:** Sleep Related Movement disorders
Abbreviation: N/A
Definition: Repetitive, stereotyped, and rhythmic motor behaviors (not tremors) that involve large muscle groups and occur predominantly during drowsiness or sleep.
Reference: Uhles, M., Malhotra, R. (2012). Movement disorders. In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 146). Philadelphia: Lippincott Williams & Wilkins.

- Term:** Sleep Spindle
Abbreviation: N/A
Definition: A train of distinct waves with frequency 11 – 16 Hz (most commonly 12 – 14 Hz) with a duration ≥ 0.5 seconds, usually maximal in amplitude over the central derivations.
Reference: Berry RB, Brooks R, Gamaldo CE, Harding SM, Lloyd RM, Marcus CL and Vaughn BV for the American Academy of Sleep Medicine. *The AASM Manual for the Scoring of Sleep and Associated Events: Rules, Terminology and Technical Specifications, Version 2.3.* www.aasmnet.org. Darien, IL: American Academy of Sleep Medicine, 2016.
- Term:** Sleep Starts
Alternate
Term: Hypnic jerks
Abbreviation: N/A
Definition: Sudden brief contractions of multiple muscles of the legs, arms or trunk at sleep onset; may be asymmetric or associated with a brief impression of falling. They are a normal phenomenon and may occur in as many as 60% of subjects of all ages.
Reference: Uhles, M., Malhotra, R. (2012). Movement disorders. In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 150). Philadelphia: Lippincott Williams & Wilkins.
- Term:** Sleep Terrors
Abbreviation: N/A
Definition: Sudden, abrupt, striking, and frightening arousals associated with profound autonomic discharges and behavioral manifestations of intense fear.
Reference: Balog, M., Sheldon, S., Loghmanee, D. (2012). Parasomnias in children. In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 150). Philadelphia: Lippincott Williams & Wilkins.
- Term:** Slow Eye Movement
Alternate
Term: Slow rolling eye movement
Abbreviation: SEM
Definition: EOG events consisting of conjugate, reasonably regular, sinusoidal eye movements with an initial deflection usually lasting >500 msec. Slow eye movements may be present during drowsy wakefulness or stage N1.
Reference: Berry RB, Brooks R, Gamaldo CE, Harding SM, Lloyd RM, Marcus CL and Vaughn BV for the American Academy of Sleep Medicine. *The AASM Manual for the Scoring of Sleep and Associated Events: Rules, Terminology and Technical Specifications, Version 2.3.* www.aasmnet.org. Darien, IL: American Academy of Sleep Medicine, 2016.
- Term:** Slow Wave Activity
Abbreviation: N/A
Definition: Waves of frequency 0.5–2 Hz and peak-to-peak amplitude >75 μ V, measured over the frontal regions referenced to the contralateral ear or mastoid (F4-M1, F3-M2).
Reference: Berry RB, Brooks R, Gamaldo CE, Harding SM, Lloyd RM, Marcus CL and Vaughn BV for the American Academy of Sleep Medicine. *The AASM Manual for the Scoring of Sleep and Associated Events: Rules, Terminology and Technical Specifications, Version 2.3.* www.aasmnet.org. Darien, IL: American Academy of Sleep Medicine, 2016.

Term: Somnambulism

Alternate

Term: Sleepwalking

Abbreviation: N/A

Definition: A parasomnia involving complex, coordinated motor behaviors during NREM sleep. Sleepwalking varies in presentation from simple sitting up in bed to agitated running during sleep. Somnambulism occurs after an abrupt arousal during SWS in the first third to the first half of the sleep period.

Reference: Eckhardt, W., Mattice, C. (2012). Parasomnias. In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 150). Philadelphia: Lippincott Williams & Wilkins.

Term: Somniloquy

Alternate

Term: Sleep talking

Abbreviation: N/A

Definition: Sleep talking; not generally associated with pathology. Sleep talking can be associated with REM sleep behavior disorder and other sleep disorders such as sleep terror, confusional arousals, or sleepwalking.

Reference: Glossary (2012). In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 645). Philadelphia: Lippincott Williams & Wilkins.

Term: Spike

Abbreviation: N/A

Definition: A transient fast frequency (20-70 msec.) waveform with a pointed peak that is recorded in the EEG channels, and can be interpreted as epileptiform activity.

Reference: Campbell, D., Davis, D. (2012). Seizures and sleep. In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 189). Philadelphia: Lippincott Williams & Wilkins.

Term: Spike and Wave Complex

Abbreviation: N/A

Definition: A sequence of 2 or more waves with a distinct pattern of a spike followed by a slow wave that is distinct from background activity.

Reference: Tyner, F., Knott, J., & Mayer, W. (1983). *Fundamentals of EEG technology, Vol.1: Basic concepts and methods* (p. 187). New York: Raven Press.

Term: Stage R Latency

Abbreviation: REM Sleep Latency

Definition: The interval from sleep onset to the first appearance of Stage R sleep in the sleep episode.

Reference: Berry RB, Brooks R, Gamaldo CE, Harding SM, Lloyd RM, Marcus CL and Vaughn BV for the American Academy of Sleep Medicine. *The AASM Manual for the Scoring of Sleep and Associated Events: Rules, Terminology and Technical Specifications, Version 2.3.* www.aasmnet.org. Darien, IL: American Academy of Sleep Medicine, 2016.

Term: Stanford Sleepiness Scale

Abbreviation: SSS

Definition: A subjective measure of sleepiness rating that uses a 7 point Likert rating scale to assess immediate changes in the patient's level of sleepiness. The rating is from "Not sleepy at all" to "Extremely sleepy." This can be used to assess the patient's readiness to fall asleep before their scheduled bedtime in the sleep laboratory or before an MSLT testing situation

Reference: Glossary (2012). In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 645). Philadelphia: Lippincott Williams & Wilkins.

Term: Status Epilepticus

Alternate

Term: Electrical status epilepticus of sleep

Abbreviation: ESPS

Definition: A condition in which there is continuing or repeated seizures that produces a fixed and enduring epileptic condition. An arbitrary duration time of 30-60 minutes is used to indicate this condition. This syndrome is known as epilepsy with continuous spike and waves during N3 sleep and refers to the occurrence of continuous epileptiform activity for at least 85% of slow wave sleep.

Reference: Campbell, D., Davis, D. (2012). Seizures and sleep. In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 196). Philadelphia: Lippincott Williams & Wilkins.

Term: Suggested Immobilization Test

Abbreviation: SIT

Definition: An electrophysiologic monitoring technique used to measure PLMW in the 1 hour prior to beginning a polysomnogram. The patient sits up in bed with legs outstretched and is instructed to remain still during the recording ("Please do not move during this test.") EMG is recorded over the bilateral anterior tibialis muscles. Every 5 minutes the patient is asked to document the severity of any urge to move their legs.

Reference: Forester, M., Becker, P. (2012). Restless legs syndrome (Willis-Ekbom Disease) and periodic limb movement disorder. In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 167). Philadelphia: Lippincott Williams & Wilkins.

Term: Sundowning

Abbreviation: N/A

Definition: The diurnal pattern of agitated behavior, with worsening in the late afternoon or early evening.

Reference: Forester, M., Becker, P. (2012). Restless legs syndrome (Willis-Ekbom Disease) and periodic limb movement disorder. In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 167). Philadelphia: Lippincott Williams & Wilkins.

Term: Suprachiasmatic Nucleus

Abbreviation: SCN

Definition: The biological clock or pacemaker located in the hypothalamus that modulates sleep and wakefulness in humans.

Reference: Kreinin, I. (2012). Sleep across the life cycle. In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 16). Philadelphia: Lippincott Williams & Wilkins.

Term: Supraventricular Tachycardia

Abbreviation: SVT

Definition: P waves that are present, aberrant, often hidden with QRS present, may be aberrant and the PR interval is not measurable. The rhythm is regular during paroxysm with a rapid rate of 150 to 250 bpm.

Reference: Atkinson, J. (2012). Cardiac arrhythmias. In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 346). Philadelphia: Lippincott Williams & Wilkins.

Term: System Reference

Abbreviation: N/A

Definition: System referencing is currently the most common technique offered by digital recording systems for selecting and changing signal input derivations. System referencing relies on a common reference electrode, typically placed on the midline of the scalp (C_z). The signals from each electrode are initially referenced to the common electrode (e.g. C_3/C_2). To display a desired, derivation, the common reference is digitally subtracted from any pair of input signals. For example, to display a C_3/A_2 (M_2) derivation, the C_z reference is subtracted from both C_3 and A_2 (M_2).

Reference: Leary, E. (2012). Polysomnographic recording procedures. In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 329). Philadelphia: Lippincott Williams & Wilkins.

Term: Thermistor

Abbreviation: N/A

Definition: A sensor that correlates with nasal and/or oral airflow by detecting changes in temperature. Thermistors are thermally sensitive variable resistors that produce voltage alterations when connected in a low-current (but constant-current) circuit.

Reference: Glossary (2012). In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 646). Philadelphia: Lippincott Williams & Wilkins.

Term: Thermocouple

Abbreviation: N/A

Definition: A sensor that is composed of dissimilar metals that detect nasal and/or oral airflow by measuring differences in temperature.

Reference: Glossary (2012). In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 646). Philadelphia: Lippincott Williams & Wilkins.

Term: Theta Rhythm

Abbreviation: N/A

Definition: An EEG rhythm consisting of 4–7 Hz activity.

Reference: Berry RB, Brooks R, Gamaldo CE, Harding SM, Lloyd RM, Marcus CL and Vaughn BV for the American Academy of Sleep Medicine. *The AASM Manual for the Scoring of Sleep and Associated Events: Rules, Terminology and Technical Specifications, Version 2.3.* www.aasmnet.org. Darien, IL: American Academy of Sleep Medicine, 2016.

Term: Tidal Volume

Abbreviation: V_t

Definition: The volume of a single normal breath. Normal values in adults are 400-600 ml.

Reference: Glossary (2012). In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 646). Philadelphia: Lippincott Williams & Wilkins.

Term: Titration
Abbreviation: N/A
Definition: Implementation of incremental changes in therapeutic pressure levels to determine optimal patient response. Examples in polysomnography are technologist-monitored PAP and oxygen titration.
Reference: Glossary (2012). In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 646). Philadelphia: Lippincott Williams & Wilkins.

Term: Total recording time

Alternate

Term: Time In Bed

Abbreviation: TRT, TIB

Definition: The elapsed time between “lights off” and “lights on” in minutes.

Reference: Atkinson, J. (2012). Report generation. In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 405). Philadelphia: Lippincott Williams & Wilkins.

Term: Total Sleep Time

Abbreviation: TST

Definition: All the time scored as NREM and REM sleep during the recording.

Reference: Atkinson, J. (2012). Report generation. In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 405). Philadelphia: Lippincott Williams & Wilkins.

Term: Total Wake Time

Abbreviation: TWT

Definition: Total time spent awake during the total recording time.

Reference: Atkinson, J. (2012). Report generation. In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 405). Philadelphia: Lippincott Williams & Wilkins.

Term: Tracheotomy

Abbreviation: N/A

Definition: A surgical procedure whereas an incision is made through the neck into the trachea to produce an airway. The tracheostomy refers to a permanent or semi-permanent opening into the trachea.

Reference: Retrieved from <http://www.merriam-webster.com/medical/tracheotomy>

Term: Transcutaneous Carbon Dioxide

Abbreviation: TcCO₂, PtcCO₂

Definition: The monitoring of (tcCO₂) is CO₂ through the skin. The electrode warms the skin surface increasing the local capillary perfusion, and measures the CO₂ gas as it diffuses from the dermis across a gas permeable membrane.

Reference: Krupski, T., Kline, C. (2012). Pediatric polysomnography. In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 506). Philadelphia: Lippincott Williams & Wilkins.

Term: Transitional Sleep

Alternate

Term: Stage T

Abbreviation: T

Definition: A transitional sleep state seen in infants at sleep onset, during arousals, or when the infant is transitioning between active and quiet sleep. Stage T is analogous to the previously used terminology of “indeterminate sleep.” Stage T (Transitional) is scored when 3 NREM and 2 REM or 2 NREM and 3 REM characteristics are present.

Reference: Berry RB, Brooks R, Gamaldo CE, Harding SM, Lloyd RM, Marcus CL and Vaughn BV for the American Academy of Sleep Medicine. *The AASM Manual for the Scoring of Sleep and Associated Events: Rules, Terminology and Technical Specifications, Version 2.3.* www.aasmnet.org. Darien, IL: American Academy of Sleep Medicine, 2016.

Term: Upper Airway Obstruction

Abbreviation: N/A

Definition: The pharynx and larynx are the usual sites for obstructive ventilator events; that is, both structures tend to collapse and occlude the airway.

Reference: Richard, C. (2012). Respiratory anatomy and physiology. In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 49). Philadelphia: Lippincott Williams & Wilkins.

Term: Upper Airway Resistance Syndrome

Abbreviation: UARS

Definition: Abnormal airway resistance in the upper airway during sleep leading to unwanted physiologic consequences such as arousals secondary to increased work of breathing to overcome the resistance. Repeated and multiple arousals (which the patient is usually unaware of) result in an abnormal sleep architecture and daytime somnolence (sleepiness).

Reference: Maher, E., Epstein, L. (2012). Obstructive sleep apnea. In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 175). Philadelphia: Lippincott Williams & Wilkins.

Term: Uvulopalatopharyngoplasty

Abbreviation: UPPP

Definition: The uvulopalatopharyngoplasty (UPPP), initially introduced for treatment of snoring, is the most common OSA surgical procedure. The UPPP involves removal of the uvula, tonsils, and tonsillar pillars along with the lower part of the soft pallet.

Reference: Maher, E., Epstein, L. (2012). Obstructive sleep apnea. In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 175). Philadelphia: Lippincott Williams & Wilkins.

Term: Vagal Tone

Abbreviation: N/A

Definition: Impulses from the vagus nerve producing inhibition of the heartbeat. The assessment of the vagal tone may be a significant method of assessing the periodic variation of heart rate associated with respiratory sinus arrhythmia.

Reference: <http://www.merriam-webster.com/medical/vagal%20tone>

Term: Ventricular Bigeminy
Abbreviation: N/A
Definition: A heart arrhythmia in which an abnormal ventricular heart beat occurs every other concurrent beat.
Reference: Glossary (2012). In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 646). Philadelphia: Lippincott Williams & Wilkins.

Term: Ventricular Fibrillation
Abbreviation: V-fib or VF
Definition: A condition in which there is uncoordinated contraction of the cardiac muscle of the ventricles in the heart, making them tremble rather than contract properly.
Reference: Atkinson, J. (2012). Cardiac arrhythmias. In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 357). Philadelphia: Lippincott Williams & Wilkins.

Term: Ventricular Tachycardia
Abbreviation: V-tach or VT
Definition: A faster than normal rhythm that is associated with the generation of electrical impulses within the ventricles and is characterized by an electrocardiogram having a broad QRS complex.
Reference: Atkinson, J. (2012). Cardiac arrhythmias. In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 357). Philadelphia: Lippincott Williams & Wilkins.

Term: Ventricular Trigeminy
Abbreviation: N/A
Definition: A heart arrhythmia in which abnormal heart beat occurs every third beat.
Reference: Atkinson, J. (2012). Cardiac arrhythmias. In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 350). Philadelphia: Lippincott Williams & Wilkins.

Term: Vertex Sharp Waves
Abbreviation: N/A
Definition: Sharply contoured waves with duration <0.5 seconds maximal over the central region and distinguishable from the background activity.
Reference: Berry RB, Brooks R, Gamaldo CE, Harding SM, Lloyd RM, Marcus CL and Vaughn BV for the American Academy of Sleep Medicine. *The AASM Manual for the Scoring of Sleep and Associated Events: Rules, Terminology and Technical Specifications, Version 2.3.* www.aasmnet.org. Darien, IL: American Academy of Sleep Medicine, 2016.

Term: Volt
Abbreviation: V
Definition: The potential difference across a conductor when a current of one ampere dissipates one watt of power. A volt is the basic unit of electromotive force. Volts measure the pressure under which electricity flows.
Reference: Hobby, M. (2012). Patient and employee safety. In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 246). Philadelphia: Lippincott Williams & Wilkins.

Term: Voltage

Abbreviation: N/A

Definition: A signal represented by peak to peak amplitude.

Reference: Patrick, R. (2012). Anatomy and physiology of the biopotentials of sleep. In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 41). Philadelphia: Lippincott Williams & Wilkins.

Term: Voltmeter

Abbreviation: N/A

Definition: Presents a resistance in parallel with the source when voltage measures are made.

Reference: Tyner, F., Knott, J., & Mayer, W. (1983). *Fundamentals of EEG technology, Vol.1: Basic concepts and methods* (p. 44). New York: Raven Press.

Term: Wake After Sleep Onset

Abbreviation: WASO

Definition: Wake after sleep onset includes all wake activity, including time out of bed. Time with the patient disconnected from the recording equipment should be scored as stage W. Brief episodes of sleep during this time, if they occur, are not considered significant for the stage scoring summary. WASO is calculated as TRT-SL-TST, in minutes.

Reference: Berry RB, Brooks R, Gamaldo CE, Harding SM, Lloyd RM, Marcus CL and Vaughn BV for the American Academy of Sleep Medicine. *The AASM Manual for the Scoring of Sleep and Associated Events: Rules, Terminology and Technical Specifications, Version 2.3.* www.aasmnet.org. Darien, IL: American Academy of Sleep Medicine, 2016.

Term: Watt

Abbreviation: N/A

Definition: A measure of the amount of work done by a certain amount of current at a certain pressure or voltage.

Reference: Glossary (2012). In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 647). Philadelphia: Lippincott Williams & Wilkins.

Term: Waveform Morphology

Abbreviation: N/A

Definition: Refers to the shape of the waveform. This is determined by the frequencies that combine to make up the waveform and by their phase and voltage.

Reference: Whitmore, H. (2012). Adult sleep scoring. In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 363). Philadelphia: Lippincott Williams & Wilkins.

Term: West Syndrome

Abbreviation: N/A

Definition: This syndrome, with a peak age of onset at 3-6 months, is characterized by the triad of infantile spasms, psychomotor retardation and EEG hypsarrhythmia, which is a typical EEG pattern consisting of multifocal and at times generalized high-voltage spike superimposed on a disorganized and chaotic background.

Reference: Campbell, D., Davis, D. (2012). Seizures and sleep. In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 192). Philadelphia: Lippincott Williams & Wilkins.

Term: Wide-Complex Tachycardia

Abbreviation: WCT

Definition: A rhythm lasting for greater than three consecutive beats at a rate > than 100 per minute with a QRS duration of ≥ 120 msec.

Reference: Atkinson, J. (2012). Cardiac abnormalities. In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 340). Philadelphia: Lippincott Williams & Wilkins.

Term: Zeitgeber

Abbreviation: N/A

Definition: An environmental or time cue that sets the body clock.

Reference: Glossary (2012). In: Mattice, C., Brooks, R., Lee-Chiong, T. (Eds.), *Fundamentals of sleep technology, 2nd ed.* (p. 647). Philadelphia: Lippincott Williams & Wilkins.