

The background is a dark, gradient grey. It is decorated with numerous realistic water droplets of various sizes. Some droplets are large and prominent, while others are small and scattered. They are primarily located in the top-left and bottom-right corners, with a few smaller ones in the center and top-right areas. The droplets have highlights and shadows, giving them a three-dimensional appearance.

# INTRODUCTION TO POLYSOMNOGRAPHY

BASIC POLYSOMNOGRAPHY TERMINOLOGY

# SLEEP DISORDERS

- **SLEEP DISORDERED BREATHING (SDB)** – ABNORMAL NOCTURNAL BREATHING RESULTING IN ABSENT OR RESTRICTED AIRFLOW DURING SLEEP
- **SLEEP APNEA** – SLEEP DISORDER CHARACTERIZED BY ABNORMAL PAUSES IN BREATHING OR INSTANCES OF ABNORMALLY LOW BREATHING DURING SLEEP
- **INSOMNIA** – INABILITY TO FALL SLEEP OR REMAIN ASLEEP
- **NARCOLEPSY** – SLEEP DISORDER CHARACTERIZED BY EXCESSIVE SLEEPINESS AND SLEEP ATTACKS AT INAPPROPRIATE TIMES
- **HYPERSOMNIA** – EXCESSIVE SLEEPINESS NOT CAUSED BY DISTURBED NOCTURNAL SLEEP OR MISALIGNED CIRCADIAN RHYTHMS



# SLEEP DISORDERS

- **PARASOMNIAS** – ABNORMAL MOVEMENTS/ACTIVITY DURING DEEP SLEEP
  - **CIRCADIAN RHYTHM DISORDERS** – DISTURBANCES OF THE BODY'S INTERNAL CLOCK
  - **MOVEMENT DISORDERS** – ABNORMAL MOVEMENTS DURING SLEEP
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# TYPES OF SLEEP APNEA

- **OBSTRUCTIVE SLEEP APNEA (OSA)** – MOST COMMON TYPE OF SLEEP APNEA. BODY MAKES EFFORT TO BREATHE DURING SLEEP BUT AIRWAY IS OBSTRUCTED.
- **CENTRAL SLEEP APNEA (CSA)** – TYPE OF SLEEP APNEA WHERE PATIENT REPEATEDLY STOPS BREATHING DURING SLEEP BECAUSE THE BRAIN TEMPORARILY STOPS SENDING SIGNALS TO THE MUSCLES THAT CONTROL BREATHING
- **MIXED SLEEP APNEA** – APNEA EVENTS START OFF WITHOUT RESPIRATORY EFFORT BUT RESPIRATORY EFFORT RESUMES BEFORE BREATHING RESUMES

# TYPES OF SLEEP APNEA

- **COMPLEX SLEEP APNEA** – PATIENT EXHIBITS OSA DURING DIAGNOSTIC STUDY BUT BEGINS TO HAVE PERSISTENT CENTRAL APNEAS DURING APPLICATION OF PAP THERAPY
- **HYPOPNEA** – AT LEAST A 30% DECREASE IN AIRFLOW WITHOUT CESSATION OF BREATHING. THIS DECREASE IN AIRFLOW HAS AT LEAST A 3% OXYGEN DESATURATION ACCOMPANYING IT.

# TYPES OF TESTS

- **PSG** – BASIC POLYSOMNOGRAM. USED TO DIAGNOSE SLEEP DISORDERS.
- **TITRATION** – TREATMENT FOR SLEEP APNEA. STUDY USED TO FIGURE OUT EFFECTIVE TREATMENT USING POSITIVE AIRWAY PRESSURE (PAP) THERAPY.
- **MSLT** – MULTIPLE SLEEP LATENCY TEST. SERIES OF FIVE NAP TRIALS THAT IS USED TO TEST FOR NARCOLEPSY AND HYPERSOMNIA.

# TYPES OF TESTS

- **MWT** – MAINTENANCE OF WAKEFULNESS TEST. TESTS ABILITY TO STAY AWAKE DURING SITUATIONS WITH LITTLE TO NO STIMULI. TYPICALLY USED TO ASSESS ALERTNESS OF TRUCK DRIVERS AND PILOTS.
- **ACTIGRAPHY** – NON-INVASIVE METHOD OF MONITORING HUMAN REST/ACTIVITY CYCLES. CONSISTS OF WEARING SPECIAL WATCH THAT DETECTS MOVEMENT.



# TREATMENT FOR SLEEP DISORDERED BREATHING

- **PAP** – POSITIVE AIRWAY PRESSURE. USED IN THE TREATMENT OF SLEEP APNEA. TAKES ROOM AIR AND PRESSURIZES IT, FORCING THE AIRWAY TO STAY OPEN DURING SLEEP.
- **IPAP** – INSPIRATORY POSITIVE AIRWAY PRESSURE. PAP PRESSURE WHEN PATIENT BREATHES IN.
- **EPAP** – EXPIRATORY POSITIVE AIRWAY PRESSURE. PAP PRESSURE WHEN PATIENT EXHALES.
- **CPAP** – CONTINUOUS POSITIVE AIRWAY PRESSURE. TYPICALLY USED FOR OBSTRUCTIVE SLEEP APNEA. PRESSURE IS THE SAME FOR IPAP AND EPAP.
- **EPR** – EXPIRATORY PRESSURE RELIEF. LOWERS PAP 1-3 CM H<sub>2</sub>O ON EXHALATION TO MAKE IT EASIER FOR PATIENT TO EXHALE ON CPAP.



# TREATMENT FOR SLEEP DISORDERED BREATHING

- **BILEVEL PAP** – TYPE OF PAP THERAPY WHERE THE INSPIRATORY PRESSURE (IPAP) IS HIGHER THAN THE EXPIRATORY PRESSURE (EPAP). GAP BETWEEN IPAP AND EPAP MUST BE BETWEEN 4-10 CM H<sub>2</sub>O. TYPICALLY USED WHEN PATIENT CANNOT TOLERATE CPAP OR CPAP DOES NOT CORRECT PATIENT'S SLEEP APNEA.
- **ASV** – ADAPTIVE SERVO VENTILATION. MACHINE IS SET WITH A RANGE THAT ALLOWS PATIENT TO FLUCTUATE BETWEEN PRESSURES DURING THE NIGHT AS NEEDED. ADAPTS TO PATIENT'S VENTILATORY NEEDS USING PRESSURE SUPPORT. TYPICALLY USED FOR COMPLEX SLEEP APNEA.

# ABBREVIATIONS TO KNOW

- **AHI** = APNEA-HYPOPNEA INDEX
- **DME** = DURABLE MEDICAL EQUIPMENT
- **EEG** = ELECTROENCEPHALOGRAPH (HEAD LEADS)
- **ECG / EKG** = ELECTROCARDIOGRAM (HEART LEADS)
- **EDS** = EXCESSIVE DAYTIME SLEEPINESS
- **EMG** = ELECTROMYOGRAM (MUSCLE MOVEMENT)
- **EOG** = ELECTRO-OCULOGRAM (EYE LEADS)
- **HFF** = HIGH FREQUENCY FILTER
- **HZ** = HERTZ
- **LFF** = LOW FREQUENCY FILTER
- **UV** = MICROVOLT

# ABBREVIATIONS TO KNOW

- **NREM** = NON-RAPID EYE MOVEMENT
- **OSA** = OBSTRUCTIVE SLEEP APNEA
- **OSAS** = OBSTRUCTIVE SLEEP APNEA SYNDROME
- **PAC** = PREMATURE ATRIAL CONTRACTION/COMPLEX
- **PLMD** = PERIODIC LIMB MOVEMENT DISORDER
- **PLMS** = PERIODIC LIMB MOVEMENTS IN SLEEP
- **PVC** = PREMATURE VENTRICULAR CONTRACTION/ COMPLEX
- **RDI** = RESPIRATORY DISTURBANCE INDEX
- **REM** = RAPID EYE MOVEMENT
- **RERA** = RESPIRATORY-EFFORT RELATED AROUSAL

# ABBREVIATIONS TO KNOW

- **RLS** = RESTLESS LEG SYNDROME
- **SDB** = SLEEP DISORDERED BREATHING
- **SEM** = SLOW EYE MOVEMENT
- **SOREMP** = SLEEP ONSET REM PERIOD
- **SPO<sub>2</sub>** = OXYHEMOGLOBIN SATURATION
- **TC** = TIME CONSTANT
- **TST** = TOTAL SLEEP TIME
- **UARS** = UPPER AIRWAY RESISTANCE SYNDROME
- **V TACH** = VENTRICULAR TACHYCARDIA
- **WASO** = WAKE AFTER SLEEP ONSET

# ABBREVIATIONS TO KNOW

- **AASM** = AMERICAN ACADEMY OF SLEEP MEDICINE
- **BRPT** = BOARD OF REGISTERED POLYSOMNOGRAPHIC TECHNOLOGISTS
- **CPSGT** = CERTIFIED POLYSOMNOGRAPHIC TECHNOLOGIST
- **RPSGT** = REGISTERED POLYSOMNOGRAPHIC TECHNOLOGIST
- **AAST** = AMERICAN ACADEMY OF SLEEP TECHNOLOGISTS
- **ABSM** = AMERICAN BOARD OF SLEEP MEDICINE
- **RST** = REGISTERED SLEEP TECHNOLOGIST
- **CCSH** = CERTIFICATION IN CLINICAL SLEEP HEALTH
- **CSE** = CLINICAL SLEEP EDUCATOR