The RTs Role in Perioperative Aspects of OSA

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AARC Approved for 1 CRCE Credit Hour

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Conflicts of Interest

Sleep Lab Management Consulting, LLC

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Learning Objectives

1. Identify the At Risk OSA patient.
2. Apply concepts related to patient safety.
3. Describe tools to mitigate risk & liability, while also generating revenue.

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AARC Approved Safety Lecture

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Attendees?

- Hospital Respiratory Therapists?
- Respiratory Department Directors?
- Respiratory Care Students and RT Schools?
- RT Sleep Lab Managers?
- RT Sleep Lab Technologists?
- RT DME/Homecare?
- Nursing?
- Medical Directors?
- RTs working in LTACCs?
- RTs working in Surgi-Centers?

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Introduction

- Respiratory Therapists and Allied Health have always had a role in identifying the “At Risk Patient” in a variety of settings.

- Sleep Disorders Centers
- Pre-Op Assessments
- Intubations/Mallampati Scores
- Post Op
- Hospital-PACU, ER, ICU, Floors, Pediatrics
- Home Care/DME

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Goals for Today

- Increased Awareness
- Provide Additional RT Evidence Based Medicine Support Materials
- Please take back to your workplaces for discussion during required education meetings/journal club
- Overview of Current Sleep Diagnostics and Treatment
- Provide You with a Perioperative/Opioid/OSA Awareness

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Today's Journey, Key Concepts

- Patient Safety, Quality of Care, Risk Mitigation, Better Outcomes
- At Risk Patients
- Evidence Based Practice Peer Review Support Materials
- Patient Advocacy
- Fast Track Sleep Studies
- RT Sleep Navigator Opportunities.

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Raising Questions

How often do you see respiratory emergencies in the hospital?

How many could OSA have been factor?

Unexpected Deaths in the PACU

Unexpected Deaths 24 hrs after Surgery

Within one week of Surgery?

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American Society of Anesthesiologists

2006 Commissioned a Task Force that Identified the Importance of Pre-Screening surgery patients for the presence of Obstructive Sleep Apnea (OSA).

Purpose: Prevent Post-Surgical Respiratory Events

Anesthesiology 2006; 104:1081-93

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2008 National Patient Safety Goals

- Proposed Goal 17 from Task Force
- Reduce Risk of Post-Operative Complications for Patients with Obstructive Sleep Apnea
- Organization screens potential OSA patients prior to surgical procedures involving centrally acting anesthetic and/or analgesic agents.

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JC Sentinel Alert #49

NOTE THE 2012 DATE OF PUBLICATION!

https://www.jointcommission.org/assets/1/18/SEA_49_opioids_8_2_12_final.pdf

The Joint Commission
Sentinel Event Alert

A complimentary publication of The Joint Commission

Issue 49, August 8, 2012

Safe use of opioids in hospitals

Published for Joint Commission accredited organizations and interested health care professionals, *Sentinel Event Alert* identifies specific types of sentinel events, describes their common underlying causes, and suggests steps to prevent occurrences in the future.

Accredited organizations should consider information in an Alert when designing or redesigning relevant processes and consider implementing relevant suggestions contained in the Alert or reasonable alternatives.

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While opioid use is generally safe for most patients, opioid analgesics may be associated with adverse effects,[1,2,3] the most serious effect being respiratory depression, which is generally preceded by sedation.[4,5,6] Other common adverse effects associated with opioid therapy include dizziness, nausea, vomiting, constipation, sedation, delirium, hallucinations, falls, hypotension, and aspiration pneumonia.[6,7] Adverse events can occur with the use of any opioid; among these are fentanyl, hydrocodone, hydromorphone, methadone, morphine, oxycodone, and sufentanil. While there are numerous problems associated with opioid use, including underprescribing, overprescribing, tolerance, dependence, and drug abuse, this Alert will focus on the safe use of opioids that are prescribed and administered within the inpatient hospital setting. The Joint Commission recognizes that the emergency department presents unique challenges that should also be addressed by the hospital, but may not be directly addressed in this Alert. This Alert will provide a number of actions that can be taken to avoid the unintended consequences of opioid use among hospital inpatients.

Opioid analgesics rank among the drugs most frequently associated with adverse drug events. The literature provides numerous studies of the adverse events associated with opioids. One study found that most adverse drug events were due to drug-drug interactions, most commonly involving opioids, benzodiazepines, or cardiac medications.[8] In addition, a British study of 3,695 inpatient adverse drug reactions found that 16 percent were attributable to opioids, making opioids one of the most frequently implicated drugs in adverse reactions.[9] The incidence of respiratory depression among post-operative patients is reported to average about 0.5 percent. Some of the causes for adverse events associated with opioid use are:

- Lack of knowledge about potency differences among opioids.
- Improper prescribing and administration of multiple opioids and modalities of opioid administration (i.e., oral, parenteral and transdermal patches).
- Inadequate monitoring of patients on opioids.[5,10]

Of the opioid-related adverse drug events – including deaths – that occurred in hospitals and were reported to The Joint Commission's Sentinel Event database (2004-2011), 47 percent were wrong dose medication errors, 29 percent were related to improper monitoring of the patient, and 11 percent were related to other factors, including excessive dosing, medication interactions and adverse drug reactions.* These reports underscore the need for the judicious and safe prescribing and administration of opioids, and the need for appropriate monitoring of patients. When opioids are administered, the potential for opioid-induced respiratory depression should always be considered because:

- The risk may be greater with higher opioid doses
- The occurrence may actually be higher than reported[11]
- There is a higher incidence observed in clinical trials[11]
- Various patients are at higher risk (see below), including patients with sleep apnea, patients who are morbidly obese, who are very young, who are elderly, who are very ill, and who concurrently receive other drugs that are central nervous system and respiratory depressants (e.g., anxiolytics, sedatives).[5,11,12]

* The reporting of most sentinel events to The Joint Commission is voluntary and represents only a small proportion of actual events. Therefore these data are not an epidemiologic data set and no conclusions should be drawn about the actual relative frequency of events or trends in events over time.

The Joint Commission

www.jointcommission.org

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2013 Anaheim AARC World Congress

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The Scientific Basis for Postoperative Respiratory Care

- Dr. Richard D. Branson
- Respiratory Care November 2013, 58 (11)

CONGRESS 2013
The 59th International Respiratory Convention & Exhibition

- RTs Role in preventing Postoperative Pulmonary Complications(PPCs)
- Covering topics such as Incentive Spirometry, Chest Physiotherapy, PEP, Intrapulmonary percussive ventilation, positioning, recognizing at the time that complications/PPCs increased morbidity, mortality and were costly.
- PAP and Oxygen proved to be the best Post-Op modalities/treatments.

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Postoperative Pulmonary Complications(PPCs)

- PPCs have a major impact on morbidity and mortality, while also increasing length of stay. One study shows a 9 day increase in length of stay and a 24% mortality rate.
- One systemic review of non-cardiac surgery alone found that PPCs occur in 2 to 19% of cases.
- **Continuous Patient monitoring** has been shown to help avoid and reduce PPCs.
- One study showed 9,864 patients of which 28% were at risk.
- 1,202 patient study, mean age 62, 33% suffered at least one PPC.
- Caret et al followed 2,464 patients in 59 hospitals, 19% 30 day mortality.
- With 12 day length of stays noted.
- Mazo et al, found 30 day mortality increased from 0.2 to 8.3% w PPC.(7.9%)
- Mazo found highest PPC was Respiratory Failure Study of 5,859 patients.

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PPCs Defined in General Electric(GE) Article

February 23, 2022

- Unplanned supplementary oxygen
- Respiratory Failure
- Unplanned Mechanical Ventilation after discharge from OR
- Acute Respiratory Distress Syndrome (ARDS)
- Pneumonia
- Pneumothorax

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GE PPC Article References

- 1: Canet, Jaume et al. “Prediction of postoperative pulmonary complications in a population-based surgical cohort.” Anesthesiology vol. 113,6 (2010): 1338-50. doi:10.1097/ALN.0b013e3181fc6e0a
- 2: Fernandez-Bustamante, Ana et al. “Postoperative Pulmonary Complications, Early Mortality, and Hospital Stay Following Noncardiothoracic Surgery: A Multicenter Study by the Perioperative Research Network Investigators.” JAMA surgery vol. 152,2 (2017): 157-166. doi:10.1001/jamasurg.2016.4065
- 3: LAS VEGAS investigators. “Epidemiology, practice of ventilation and outcome for patients at increased risk of postoperative pulmonary complications: LAS VEGAS - an observational study in 29 countries.” European journal of anaesthesiology vol. 34,8 (2017): 492-507. doi:10.1097/EJA.0000000000000646
- 4: Mazo, Valentín et al. “Prospective external validation of a predictive score for postoperative pulmonary complications.” Anesthesiology vol. 121,2 (2014): 219-31. doi:10.1097/ALN.0000000000000334

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OSA Statistical US/Worldwide

- American Academy of Sleep Medicine
- 12% of Adult Population has OSA = 24 Million in US.
  - 80% undiagnosed
- The National Commission on Sleep Disorders Research
  - 6% of all women and 13% of all men in US
    - 35 Million in US
  - 1 Billion Worldwide – Cozowicz et al 2021

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Pathophysiology of OSA

- Awake: Airway Patent/Neuromuscular Compensation
- Sleep Onset
- Neuromuscular compensation is lost
- Airway Collapses
- Apnea Occurs
- Hypoxia & Hypercapnia ensue
- Ventilatory effort increases
- Arousal from sleep
- Pharyngeal muscle tone increases
- Patent airway restored
- Hypoxia and Hypercapnia improved by hyperventilation

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Associated OSA Conditions

- Obesity
- Depression
- Transportation Accidents
- Diabetes
- GERD
- Stroke
- Hypertension
- Coronary Artery Disease
- Arrhythmias
- Left side heart enlargement
- LV Dysfunction
- Congestive Heart Failure(CHF) Sidney

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Anesthesia Concerns with OSA

- OSA patients are more susceptible to airway collapse without anesthesia.
- OSA can affect all three phases of perioperative period.
- Anesthesiologist role in identification of the at risk OSA patient.
- Upper airway dilator muscles impaired.
- Effect may last for hours
- Eikermann, et. Al., AmJRespirCritCareMed 2007 175:9-15

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Anesthesia

- Impairs airway patency
- Increases difficulty of intubation
- Brain response less effective
- Narcotics decrease sensitivity to CO2
- Respiratory drive/rate depressed

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Anesthesia

- **Unexpected Risks during Administration of Conscious Sedation: Previously Undiagnosed Obstructive Sleep Apnea**
- Annals of Internal Medicine, 2003;139: 707-708
- Pressman, et. Al.

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Case Report

- Male 65 years of age-Radical prostatectomy
- History showed Positive OSA Profile
- Not diagnosed/treated
- Morphine 5 mg, epidural
- 8 hours later found unresponsive
- Apneic with Cyanosis
- Patient recovered

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Case Report

- Male 38 years of age-Emergent mastoidectomy
- History of loud snoring
- Diagnosed with OSA, but never treated
- Upon extubation patient airway collapses
- Reintubated

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Case Report

- Male 41 years of age-Orthopedic surgery
- Diagnosed, but not treated
- Epidural opioids
- Post-op day 2 found unresponsive
- Irregular respiratory pattern
- Cardiac arrest lead to death

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Case Report

- Obese male, 42 years of age-Elective Surgery
- Diagnosed with OSA, not treated
- IM Morphine
- Cardiac arrest
- Severe hypoxia followed by cerebral silence

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RTs, Is There a Problem Here??

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Stop-Bang Screening Questionnaire

- 1. Do you **Snore** loudly?
- 2. Do you often feel **Tired** during the daytime?
- 3. Has anyone **Observed** you stop breathing during your sleep?
- 4. Do you have or are you being treated for high blood **Pressure**?

Stop

- 5. **BMI** more than 35 kg/m ?
- 6. **Age** over 50?
- 7. **Neck** circumference greater than 40cm?
- 8. **Gender** male?

Bang

- High Risk of OSA=Yes to 3 or more items
- Low Risk of OSA= Yes to less than 3 items

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Preoperative Screening for OSA

- Stop Bang Questionnaire with H&P
- Preoperative diagnosis
- Referral to sleep disorder center
- Preoperative treatment if possible
- PAP Treatment prior to surgery
- PAP Treatment documented prior to surgery

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RT Screening/Identifying the "At Risk Patient"

- Stop Bang Questionnaire
- Epworth Sleepiness Scale and Berlin Questionnaire
- Pre-Op Work Up Report/History on Hospital Platform/Patient Record
- BMI > 30
- Apnea Hypopnea Index > 5
- Malampati Scores…Difficult Intubation? Upright?/Bariatric
- Witnessed Snoring
- Hypoxic Episodes

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Protocol Inclusion Criteria

BOX 1: High Risk Indicators

- STOPBANG ≥ 5 (no previous sleep study, or no home use of CPAP, bi-level, or auto-titrate)
- Previous diagnosis of OSA; however patient is non-compliant with CPAP or bi-level ordered therapy; or not yet ordered on PAP therapy
- Patient requiring CPAP, bi-level or auto-titrate in PACU or on a patient care floor who were not using at home prior to procedure
- Recurrent Respiratory Event (***Non-stimulated patient – defined as ≥ 2 events during Phase 2 recovery***):
  - Repeated occurrence of oxygen saturation < 90%
  - Bradypnea < 8 breaths/minute
  - Apnea > 10 seconds
- Pain mismatch (high pain and sedation scores concurrently)
- Patient requiring supplemental oxygen but did not pre-procedure/pre-hospital admission
- Extended PACU recovery (≥ 90 minutes)
- Consider transfer to higher level of care or hospital admission if PACU recovery time ≥ 120 minutes

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OSA – Diagnosis

- Clinical examination(history and physical examination) carries a diagnostic sensitivity and specificity of only 50 to 60% even when performed by experienced sleep physicians
- ACCP Clinics of Chest Med **1998**; 19:1-19
- If it walks like, talks like, looks like a ….
- **Its OSA**

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Quacks, Walks and Talks, Its OSA 40 Years EBM

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Parker Stewart's Bill

- Uintah Basin Medical Center
- 3 Unexplained deaths post-op
- Parkers death ruled Pneumonia????
- Post-Op Opioids, common factor

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Parker's Case Showed Need for Home Monitoring

- Respiratory Rate
- Pulse Oximetry
- Capnography – End Tidal or Transcutaneous
- Acoustical Monitoring? CLB, Netherlands, Artificial Intelligence
- Masimo also involved

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Parker References

- CDC's report on opioid related deaths
- https//www.cdc.gov/drugoverdose/epidemic/index.html
- Susan C. Ryan et al
- Sleep study and oximetry parameters for predicting postoperative complications in patients with OSA.
- Chest ; 155(4):855-867 2019
- https://youtu.be/R-4JwdUC4hO Parker's Story

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Statistics, Cost/Case, Numbers & Regulations…

Human Cost…

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2018 Utah APPROVED Legislation

58 WHEREAS, capnography and acoustic monitoring are increasingly becoming the

- 2 -

01-09-18 1:58 PM S.C.R. 4

59 standard of care to detect changes in breathing, and the United States Food and Drug

60 Administration has recently approved devices using these technologies for in-home use; and

LEGISLATIVE GENERAL COUNSEL S.C.R. 4
Approved for Filing: D.M. Cheung
01-09-18 1:58 PM

CONCURRENT RESOLUTION ON DEATHS FROM
OPIOID-INDUCED POSTOPERATIVE RESPIRATORY
DEPRESSION
2018 GENERAL SESSION
STATE OF UTAH
Chief Sponsor: Kevin T. Van Tassell
House Sponsor: _____

LONG TITLE
General Description:
This concurrent resolution of the Legislature and the Governor recognizes the devastating effects of the sudden death of Utah residents from opioid-induced postoperative respiratory depression, urges further study of this issue, and encourages physicians to prescribe in-home monitoring devices for patients who are discharged with opioids after surgery.
Highlighted Provisions:
This resolution:
- recognizes the effects of sudden death from opioid-induced postoperative respiratory depression;
- urges the Department of Health, hospitals, practitioners, and academics to further study this issue; and
- encourages physicians to prescribe in-home monitoring devices for patients who are discharged with opioids after surgery.

Special Clauses:
None

Be it resolved by the Legislature of the state of Utah, the Governor concurring therein:

S.C.R. 4

Passed out of all committees, the Senate and House of Representatives without any dissenting votes. Signed into law March 2018.

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Utah SCR004 MATTERS!

- Raises awareness of the risks of opioid use
- *Opioids + Benzos + Anti-histamines + "Sleepers" + Antiemetics*
- ALL CNS affecting medications, beside opioids
- Emphasizes the need for identification and home monitoring of higher risk patients
- Government and third party payer reimbursement……
- Stresses the need to identify high risk patients
- OSA

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Best Practices Contact

- **Kim Bennion MsHS, RRT, CHC**
  - Intermountain Healthcare
- System Administrative Director
  - Respiratory Care
  - 801-507-8072 Office
  - 801-347-1269 Cell
  - Kim.Bennion@imail.org

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OSA Diagnostics/Treatment At a Glance

- Hospital Study
- Home Study
- Wearables

- CPAP, Bi-Level, Bi-Level ST, AUTO-SERVO(ASV) APAP Auto Bi-Level
- Dental Devices

- Hypoglossal Stim-Inspire and Nyoaxh pictures
- Remede-Centrals
- Surgery

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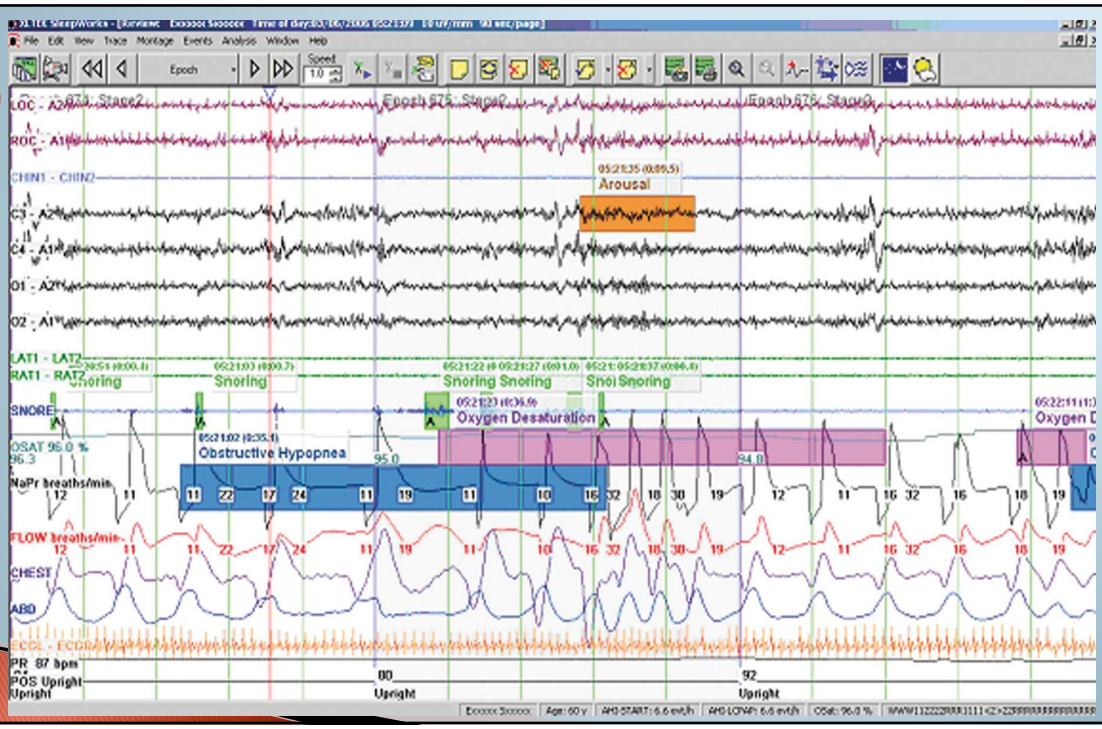
In-Lab Sleep Study



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REM

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OSA Home Sleep Study

Some are screening tools.
Some are Wearables.

Natus Cadwell Zanzors
Night Owl MOTIV Oura
Itamar Withings Sleep Analyzer Philips

Nox Medical- 4 to 16 channels Sleep Image

Braebon MIT Radio Wave Prototype Sunrise

Amazon-FCC approval for RADAR…..

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Wearable Diagnostics

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MOTIV- Shifting

OURA- Finland

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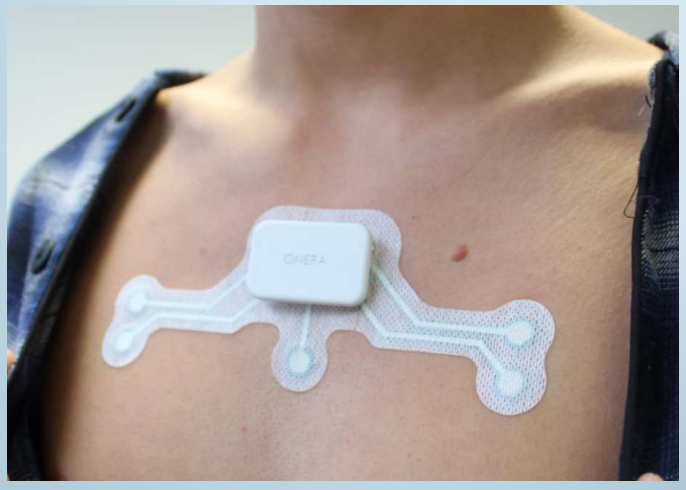
Disposable Sleep Diagnostics



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ZOLL/Respicardia/Itamar Disposable HST

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beddr

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Radio Wave Claims

MIT Breathing Rate, Pulse, Stages

Amazon Monitoring Sleep w Radar just got approved.
Acoustical Monitoring for Hospital and Home

Additional Thoughts:
New devices w Cell Phone Apps for Screening purposes.

SleepMedRX – TeleMed combined w new devices.

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Sommetrics

Making Your Sleep Count

Overview prepared for Peter Allen
October 2023

RED HERRING 100 WINNER N. AMERICA

FROST & SULLIVAN
Visionary Innovation Leadership Award
Acute Airway Management
GLOBAL

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Our Solution - aerSleep®

aerSleep is a new way of treating sleep apnea which provides many advantages

- Cordless neck collar which opens the airway from the outside with gentle vacuum
- Integrated, silent vacuum pump
- Comfortable, easy to use and very portable
- Preferred by user and bed partner
- Monitoring capabilities

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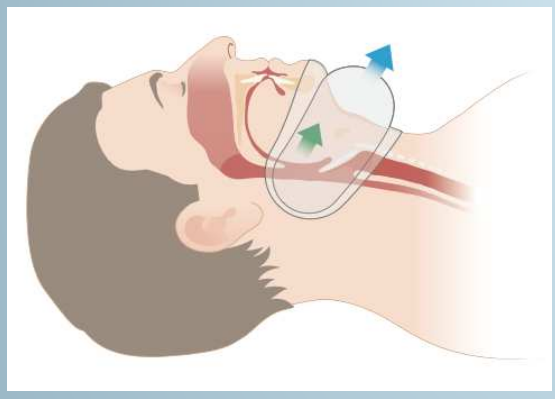
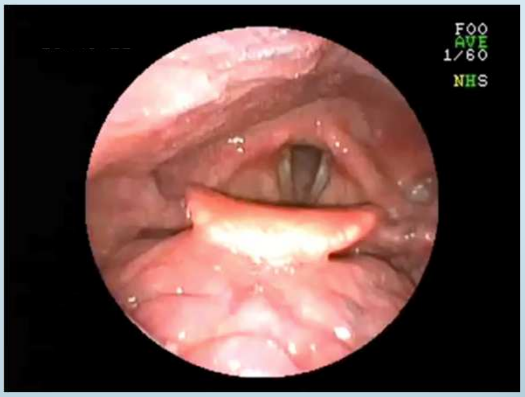
Here's How aerSleep Works

External view



Internal view



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Product Validation – Clinical Results

Completed **8** sleep apnea clinical trials involving **>200** subjects.

Technology was effective in **>70%** of people with all levels of disease severity. No major safety issues found.

After three weeks of home use, **76%** of patients preferred aerSleep to their current or previous treatment.

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Product Validation

- Recipient of a Breakthrough Device designation from FDA in Q3 2020
- 41 international patents granted
- Validity of the core US patent extensively challenged by major competitor and granted by USPTO with only minor revisions

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Present/Future

Obstructive Sleep Apnea
Well over 90% of lab work is for OSA

OSA Home Study Devices 1988

Over 30 Years Ago….

Politics of Money and Medicine…..

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Serving an Unmet Need

itamar medical

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PAP/NIV

- Most Common Therapy
- Most well known by Respiratory in all settings.
- CPAP
- Bi-Level
- Auto-Servo(ASV)
  - Still Gold Standard First Treatment Pathway for Most
    - Recovery PAP and Oxygen in the PACU
    - Patient's own equipment at bedside,
  - Call Bio-Med and/or DME/Check Dept. Protocols

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Snoring Market, Low Flow and Dental

Dental Devices/Airway Management

Cloud 9

Market is huge for Snoring w very low AHI

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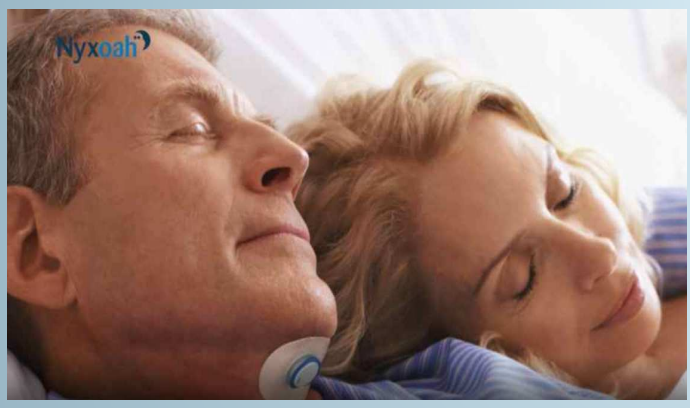
Hypoglossal Stim Implants



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Central Apnea Implant

- ZOLL/Respicardia/Remede

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Hospital and Sleep Lab Automation

All tie in w your present EMR and data platforms.
Improve Workflow, Speed, Patient Experience

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Bermuda

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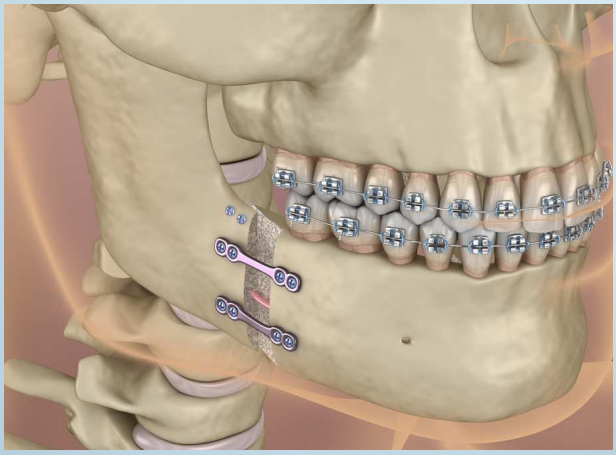
ENT and Maxillofacial Surgery



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Pharma Treatment for OSA

- "An Introduction to Obstructive Sleep Apnea (1 of 3) Development of Potential Pharmaceutical Treatment Options"
- By Luigi Taranto Montemurro, MD, CSO of Apnimed and David P. White, MD, SVP Medical Affairs, Apnimed

- Trials all over the world.
- Division of Sleep and Circadian Disorders, Departments of Medicine and Neurology, Brigham & Women's Hospital and Harvard Medical School,
- Boston, Massachusetts

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Apnimed

- Stage three trials at this time/FDA FastTrack

- 2023 Cantor Fitzgerald Global Healthcare Conference, New York/September 28th

  - Baird Global Healthcare, New York
  - Citi 18th Annual BioPharma Conference, Boston
  - Apnimed presenting at these three September 2023 events

- To Date Apnimed has raised $207 Million in Funding for Research and Development

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Apnimed

How?

- AD109 targets two neurochemical pathways which control the upper airway musculature during sleep via a dual mechanism of action. AD109 would be the first medication indicated to address the disordered nighttime breathing that causes obstructive sleep apnea.

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RT/Sleep/Allied Health Overlap

- Cross-Over Aspects
- It's a Team Effort
- RTs, Nursing, Physicians, Case Management, Sleep Navigator, DME
- Department Directors, Managers, Administration

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Vice President/Administrative Concerns

- Patient Safety, Quality and Patient Experience/Patient Satisfaction
- Reduction of Re-admissions
- Risk Mitigation
- Liability/Legal
- Revenues
- Treat Sleep Lab as a Revenue Center, not a Cost Center?? Do They?

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Anesthesia

- SASM
- Your Anesthesia Department/Service
- Sedation/Opioid Aspects
- Avoiding Escalation of Care = Avoiding $$$$$$$ lost by Hospital
- Avoiding Re-Intubations

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Avoiding Re-intubations

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Nursing

- Patient History
- Snoring
- DME/Bio-Med Notified
- Wrist Bands
- Alerts Respiratory Therapy and RT Sleep Navigator

- Page Respiratory, Page Respiratory, Page Respiratory
- Good Team Meetings Topic for Nursing and Respiratory Care

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Team Members

- Respiratory Care Department Director
- Patient's Respiratory Therapist and Nursing
- Sleep Lab Medical Director
- Sleep Lab Manager and Staff
- Hospitalists
- Case Managers/Discharge Planners
- Sleep Navigator
- Bio-Med
- DME

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Team Happiness!

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Patient's Respiratory Therapist

- **Respiratory patient is fine to discharge but fails to wean PAP/NIV.**
- Patient Advocate(Everyone should be the Patient Advocate)…?
- Screening for possible OSA >>>>>> Wrist Bands?
- Patient History, Snoring, Oxygen Desaturations Observed/Documented
- Overnight Oximetry-Run a strip or use HST device.
- Current OSA Therapy if any?
- Sleep Lab Physician/Study recommendation
- Fast Track Split-Night Study Ordered through **Case Manager>>>>>>**

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Respiratory Department Director

Helps coordinate Split-Night, home follow-up including Home Monitoring?

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>>>>>Sleep Lab Manager Role>>>>>>
Dedicated Patient Advocate

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Fast Track Sleep Study Protocols
Readmissions Down, Revenues Up

- Start Button can be built into your current platform.
- Script by Hospitalist or Sleep Physician who has seen patient.
- Case Manager/Discharge Planning **contacts Sleep Lab Manager**.
- Case Manager/Discharge Planning **alerts DME to a Fast Track Patient**
- Patient gets discharged. Then readmitted as Outpatient to Lab.
- **Split-Night Study performed. AM>**Study Scored/Interpreted/Script/>DME
- Patient goes home, DME sets up patient support that day.
- Patient experiences **continued airway support**/ventilation without interruption. Hopefully **readmission is avoided** and >>>>>>>>>>>>>**sleep lab revenues enhanced**.

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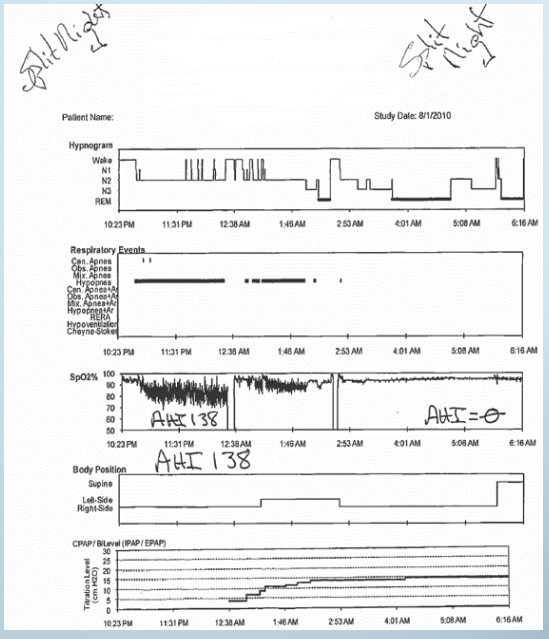
Perfect Split-Night



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Who Brings it all Together????

- Everyone of Course
- Respiratory Therapist/Sleep Lab Manager/Sleep Navigator/Nursing
- Once Again, A Team Effort Involved

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Team Harmony

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Team Happiness!

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An Emerging and Expanding Role for the Respiratory Therapist?

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Respiratory/Sleep Navigator/A New Player??

- Similar to the Asthma Educator and COPD Navigator Roles

- Visits with patients and family in hospital
- Helps determine current OSA risk or current diagnosis. (Stop Bang)
- Reviews patient's current therapy if present
- Alerts Nursing and Respiratory to any immediate concerns
- Helps coordinate Action Plans ie: Sleep Study recommendations/DME
- Reduces Readmissions, Patient Risk, Hospital Liability
- Increases Patient Safety, Patient Satisfaction Hospital Revenues

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Perioperative Management Sleep Navigator Budget

- **Questions to Ask:**

- **What is it going to cost to implement?**
- **What will it cost if we do not implement?**
- **Sleep Disorders is a Revenue Center, Not a Cost Center….**

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Cost of an RT/Sleep Navigator/Pilot Program

- As an employee: $80k plus benefits.
  - Or
  - Perform a 2 Month Trial
- Independent Contractor/Consultant
  - @
  - $500.00 per day
  - Monday/Wednesday/Friday
  - On Call Services Included
- End of Trial Hire A Full Time Sleep Navigator or Orient Existing Employee

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RT Sleep Navigator Financial Justification

- Avoiding patient stay in hospital by 2 days = $20,000.00 (Fast Track)
- Avoiding case escalation = $50,000.00 plus with Post-Op Program
- Greater patient safety, patient satisfaction, mitigating risk/readmissions.
  - Home monitoring of Opioid patients = Direct Revenue/Less readmissions
- Identifying/Interviewing/educating patients indicating for sleep studies.
  - OSA, COPD, Stroke, Cardiac, Nephrology, Obese and Diabetic Profiles
  - Sleep Navigators can also routinely identify and refer 10 patients per month to your sleep physicians, at a 200 bed hospital.
    - Conservative additional revenue per month = $25,000.00

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RT Sleep Navigator's Experiences Published

- Feature Article by RT Magazine's sister publication, Sleep Review
- "Respiratory Therapists Making the Jump to Sleep Navigator"
- August 11, 2020
- Author: Greg Thompson
- 3 of the 4 Sleep Navigators featured in article are Respiratory Therapists

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How Do We Make it All Happen?

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How Do We Get There?

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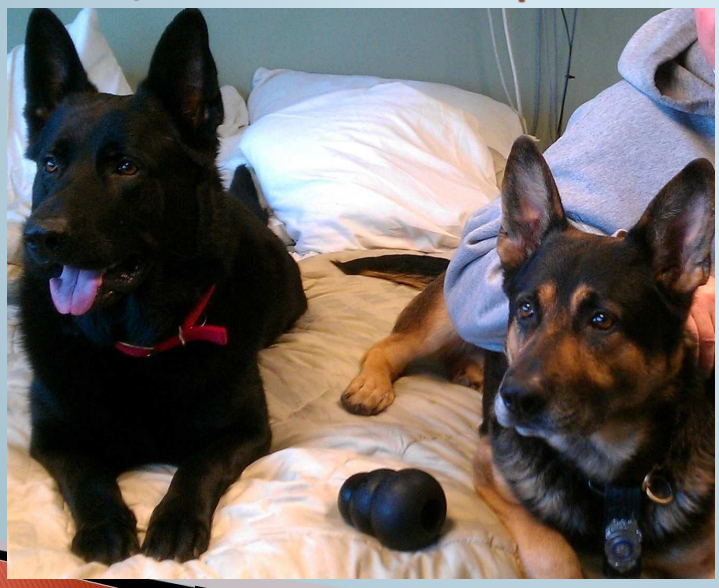
1st, Find Your Champions



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RTs, Finding Your Champions

- Chief Financial Officer-CFO Money Drives New Initiatives
- VP
- Anesthesia
- Nursing
- Medical Director Sleep Lab
- Medical Director Critical Care
- RT Department Director
- RT Supervisor
- DME/Homecare

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Great Resource Articles for Your Program

- Society of Anesthesia and Sleep Medicine Educational Document
- "Recommendations for Management of Obstructive Sleep Apnea in the Perioperative Period" Twenty-Six Pages ***Invaluable Outline***
  - www.sasmhq.org
- "Home Monitoring of Post-Operative Ear, Nose and Throat Patients for Opioid Induced Respiratory Depression-More Than OSA"
  - Bennion et al Intermountain Healthcare
    - Kim.Bennion@imail.org

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Organizations/References

- SASM Society of Anesthesia and Sleep Medicine https://sasmhq.org
- National Heart, Lung and Blood Institute nsdr@nih.gov
- AASM American Association of Sleep Medicine https://aasm.org
- AARC American Association for Respiratory Care https://www.aarc.org
- AAST American Association of Sleep Technologists https://www.aast.org
- AASDM American Academy of Sleep Dental Medicine https://www.aadsm.org
- AAO American Academy of Otolaryngology https://www.ent.org
- American Sleep Apnea Association https://rarediseases.org
- ACCP American College of Chest Physicians https://chestnet.org
- ATS American Thoracic Society https://www.thoracic.org

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Summary/Take A Way

- Patient Safety
- Patient Satisfaction
- Quality of Care
- Better Outcomes
- Quality Assurance
- Mitigate Risk
- Increased Savings and Revenues

- Review Your Current Protocols
- Use listed References to Support Your Evidence Based Medicine Plan

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References

- Supplied throughout Presentation

- petersleep@comcast.net

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Thank You PSRC
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