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Deepak Shrivastava is a sleep physician in California. He is devoted to medical education and research. Dr. Shrivastava is board certified in sleep medicine, pulmonary medicine, critical care medicine, internal medicine and polysomnography technology.

RPSGT Exam Corner – Frequently Asked Questions

- 1 At what age the K complex appears on human electroencephalogram?**
A. Two months
B. Five months
C. Ten months
D. Two years
- 2 Which of the following statement defines the major difference between AC and DC amplifiers?**
A. DC amplifiers have a greater sensitivity range than an AC amplifier
B. AC amplifiers have a high frequency filter, while DC amplifiers do not
C. AC amplifiers have a low frequency filter, while a DC amplifier does not
D. DC amplifiers have a polarity switch, while AC amplifiers do not
- 3 The technician observes muscle artifact in a single EEG channel that shares a common reference with other channels. The appropriate response is:**
A. Re-reference the channel showing the artifact to a back-up reference electrode
B. Re-reference the channel showing artifact by changing the input signal derivation to a back-up exploring electrode
C. Eliminate the artifact by double-referencing the input signal derivation
D. Eliminate the artifact by reducing the high frequency filter to 15Hz
- 4 What factors come into play when deciding to enter the patient room to correct artifacts?**
A. Importance of electrode channel in scoring
B. Ease at which patient falls asleep
C. Skill at fixing problem without waking patient
D. All of the above
- 5 What is the recommended high frequency filter (HFF) for Oronasal Thermal Flow?**
A. 0 Hz
B. 15 Hz
C. 35 Hz
D. 100 Hz

ANSWERS

Question 1:

Answer is B. Five months

Reference: i. Rationale: K complex appears at 5 month of age while sleep spindles occur at two months of age.
ii. Fisch and Spehlmann's EEG Primer, 3rd ed Amsterdam: Elsevier; 1999, Atlas of Pediatric Electroencephalography. 2nd ed. Philadelphia: Lippincott-Raven;1999

Question 2:

Answer is B. AC amplifiers have a high frequency filter, while DC amplifiers do not

Reference: Rationale: Clinical Neurophysiology of Sleep Disorders, Elsevier, 2005

Question 3:

Answer is B. Re-reference the channel showing artifact by changing the input signal derivation to a back-up exploring electrode

Reference: Rationale: Essentials of Polysomnography: a training guide and reference for sleep technicians. 2nd ed. Jones & Bartlett Learning LLC 2015

Question 4:

Answer is D. All of the above

Reference: Rationale: www.carolinasleepsociety.org/documents/presentations/2014_may/2014_may_ruth_psg_artifact_review.pdf

Question 5:

Answer is B. 15 Hz

Reference: Rationale: https://go.aastweb.org/Resources/FocusGroups/Primer_ProTech.pdf

Letters to the Editor:

Our readers are invited to write to the editor by volunteering content that they feel strongly about or feel needs coverage in a publication such as this. Your input is welcome and valued, particularly with case studies and hot topics currently debated in the field, as well as reviews of Asia Pacific congresses and conferences that you might like to share with the audience. Your letters will be featured in future issues of Sleepmatters, allowing an open forum between experts and increasing the level of engagement amongst the audience.

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Sleep watching

ASEAN SLEEP TECHNOLOGY NEWSLETTER NEWS / OPINIONS / INSIGHTS



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Committee member of Motor Neurone Disease society, Malaysia
Advisor/committee of Christian Hospice Collaboration

Interview with Dr. Ng Woon Fang on “Disinfection in Sleep Lab”

What is the recommendation to clean EEG cup electrodes?

Clean using mild soap and rise with water and put to air dry. Preferably use distilled water to avoid damage to the gold cup. May use soft brush to remove the paste. Avoid alcohol and bleach to prevent abrasive erosion of the gold cup.¹

What is the recommendation to clean Snap electrodes?

Wipe with non-corrosive disinfectant to the plastic as per treatment to non-critical medical equipment. Allow air dry. Gas sterilization is permitted as needed.¹

What is the recommendation to clean PAP Devices?

The PAP devices must be detached from the wall outlet to avoid conduction of electric and shock. Wipe the outer frame with mild disinfectant. Do not immerse the PAP devices in water. Ensure the device dry completely and repair broken parts before resume usage.¹

What is the recommendation to clean Mask interfaces?

Refer to manufacturer's specific instruction of cleaning. May use pasteurisation or other high level disinfectant process. Consider using timer during the process of disinfectant to preserve the usage lifetime of the mask. The cleaning process may result in some discoloration.¹

What is the recommendation to clean Mask Head strap?

Wash with warm water and use soap such as baby shampoo. Rinse thoroughly and allow air dry. Avoid alcohol, vinegar, bleach, moisturisers, scented soap and antibacterial agent to allow prolonged use.¹

What is the recommendation to clean PAP Tubing?

Soak in detergent and brush the tubing with soft brush and rinse thoroughly. Soak in an ortho-phthalaldehyde solution such as Cidex® OPA. Allow air dry. Store in dry and dust-free environment.¹

What is the recommendation to clean pressure airflow sensor?

Discard the disposable cannula after single use. Wipe the part with the plastic wire set with non-corrosive cleaning agent. Gas sterilisation is permitted as needed.¹

What is the recommendation to clean thermal airflow sensor?

Wipe with non-corrosive cleaning agent to the plastic and allow complete air dry before assembling and use on patient. Gas sterilisation is permitted as needed.¹



Sleep watching past issues

To access the past issues of sleep watching, please go to the below webpage
www.philips.com.sg/healthcare-consumer/sleep-apnea/resources#sleep-physicians-newsletters

Email us on
sleepmatters@philips.com with your content.

What is the recommendation to clean snore sensor?

Wipe with non-corrosive cleaning agent to the plastic and allow complete air dry before assembling and use on patient. Gas sterilisation is permitted as needed.¹

What is the recommendation to clean body position sensor?

Wipe with non-corrosive cleaning agent to the plastic and allow complete air dry before assembling and use on patient. Gas sterilisation is permitted as needed.¹

What is the recommendation to clean piezo belts?

Wipe the buckle and the wire set with alcohol or cleaning agent that is non-corrosive to plastic. Wipe the belt strap with alcohol or soaked in disinfecting solution before rinse and dry. The belt strap may be machine washed on gentle cycle.¹

What is the recommendation to clean RIP belts?

Wipe the wire set with alcohol or cleaning agent that is non-corrosive to plastic. Wipe the belt strap with alcohol or soaked in disinfecting solution before rinse and dry. Avoid wring out the RIP belt that contained coiled wire.¹

What is the recommendation to clean PAP Humidification chamber?

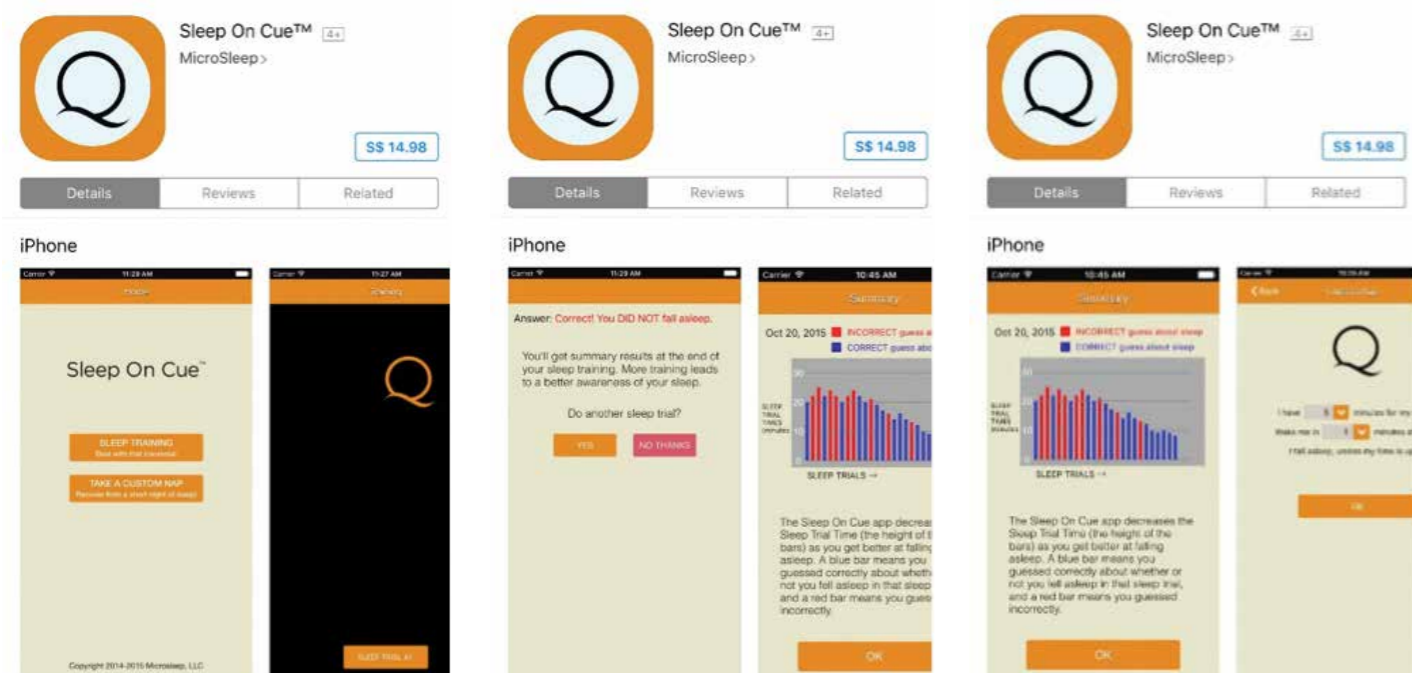
Disassemble the humidifier chamber as according to manufacturer's instruction. Rinse and brush the chamber with soft brush using warm water. Soak humidifier components in an ortho-phthalaldehyde solution and rinse thoroughly. Discard the chamber if found cracks or tears. Allow air dry. Store in dry and dust free environment. The humidifier can be washed in an automatic washer/disinfector alternatively.¹

Reference 1: Mary Kay Hobby, Technical Corner: Requirements and techniques for cleaning equipment in the sleep lab, Azzz 20.2, June 2011.

Smart Phone and Sleep - "Sleep on Cue" app for iPhone

Sleep On Cue is a viable option for estimating sleep onset and may be used to administer Intensive Sleep Retraining or facilitate power naps in the home environment.

Twelve young adults underwent polysomnography recording while simultaneously using Sleep On Cue. Participants completed as many sleep-onset trials as possible within a 2-h period following their normal bedtime. On each trial, participants were awoken by the app following behavioural sleep onset. Then, after a short break of wakefulness, commenced the next trial. There was a high degree of correspondence between polysomnography-determined sleep onset and Sleep On Cue behavioural sleep onset, $r = 0.79$, $P < 0.001$. On average, Sleep On Cue overestimated sleep-onset latency by 3.17 min (SD = 3.04). When polysomnography sleep onset was defined as the beginning of N2 sleep, the discrepancy was reduced considerably (M = 0.81, SD = 1.96).²



Reference 2: Scott, H., Lack, L. and Lovato, N. (2017), A pilot study of a novel smartphone application for the estimation of sleep onset. J Sleep Res. doi:10.1111/jsr.12575



ANG SUE YEN, RPSGT
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Medical Sales Engineer at VitaMedik

My involvement in sleep medicine started when I began my career as a Product & Application Specialist in 2014, and when I joined Vitamedik as Medical Sales Engineer in 2015. I passed RPSGT exam in May 2017 and I look forward to implement my knowledge to help more patients get better Sleep.

Personal opinions of a sleep technologist

Why do you decide to become a sleep technologist?

In the beginning I was not aware of how much sleep disorders can impact our daily lives. Once I started interacting with patients I realized the impact of sleep disorders on patient's lives. I also became aware that the awareness about sleep disorders in Malaysia among general public is very low. This made me think how I should help the patients. As a first step I updated my knowledge and passed the RPSGT exam in May 2017. Hearing compliments from patients give me overwhelming satisfaction and encourage me to excel in this profession and increase the awareness about sleep disorders.

What is the most challenging aspect of your profession?

The most challenging aspect of my profession is to ensure adherence to PAP therapy in Sleep Apnea patients. Second is to educate and make the public realize that they are suffering from sleep disorders and convincing them that there is an avenue to overcome this problem. Even if we diagnose them with sleep apnea and they start using PAP therapy, it can be challenging to keep them adherent to PAP therapy.

What is the biggest change in profession since you began?

Daytime sleepiness is no longer simply due to lack of sleep. It can be an indication of some sleep disorders. The long-term consequences of sleep disorders can lead to major health problems. With the existing knowledge and technologies available now, we can determine and pinpoint the cause of daytime sleepiness. And as a sleep technologist, we are responsible to apply our knowledge and provide solutions to overcome these problems.

What factors do you think influence patient's choice of mask?

The size of mask plays an important role. Minimal contact masks such as the nasal mask and nasal pillow, are easier to put on, comfortable and they are good in minimizing air leaks as they provide better seal. It is important to ensure proper mask seal because large leak may compromise the pressure delivered to the PAP machine users, and this may defeat the purpose of the therapy. Selection of mask may also be influenced by the material of the mask (gel or silicon). Patients are allowed to try on a few types of mask during their trial to determine which type of mask suits them and do not cause irritation to the skin.

What factors influence patient adherence to CPAP?

Proper education given to the patient during the first trial often influence the following PAP adherence. As a sleep technologist, we are responsible in preparing the patient for what to expect during and after the trial, as well as to guide them on how to overcome problems encountered during the trial such as air leaks and high pressures. Proper selection of mask, troubleshooting and solutions should be given to first time users to ensure that they gain benefits from the PAP therapy. This is crucial as the first trial usually leaves deep impression to the users and will further influence their future continuity and adherence to the PAP machines.

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