Q&A from *Obstructive Sleep Apnea and Continuous Positive Airway Pressure: Can We Make Adherence to Treatment Easy-Breezy?*

Is there a way to increase muscle tone in the airway? There is some (weak) evidence that singing lessons and practicing wind musical instruments (didgeridoo) might help; getting regular exercise may help stabilize the upper airway muscles - these are more likely to be helpful for people with milder apnea or snoring. A newer device (eXcite OSA) tries to train the upper airway muscles - it is used 20 minutes a day for 6 weeks, then twice a week after that - I have not had much luck with eXcite for patients, and getting it covered was also difficult. Stopping alcohol/sedatives/narcotics can also help improve airway tone, as can replacing thyroid hormone for people with hypothyroidism.

How do we assist clients presenting with sleep apnea symptoms, who do not have access to healthcare (for instance due to financial constraints)? Are there any alternatives?
Advocacy for coverage at every level is so important to make sure everyone has access to essential care; especially here since there are public safety/road safety ramifications as well as personal health/safety/occupational risks. Thankfully VA covers OSA testing and therapy and it's one of the things I love about practicing there; Sometimes in the private sector a patient just wants to go straight to CPAP and skip testing, skip insurance; I usually assess their OSA risk with a validated questionnaire that we have developed (multivariable apnea prediction index); there are ways to get CPAP through direct purchase online, which may save some $; CPAP.com is one site; Second Wind sells lower cost devices. We need CPAP redistribution programs; there are patients who stop therapy, and those devices can help people without means. Thanks for the great question.

Can you provide examples to help us document "Impaired Cognition? secondary to untreated sleep apnea? For documenting impaired cognition - generally I ask about forgetfulness; where they left their keys, parked their car; forgetting what they were about to say; difficulty with naming things - everyone has this to some degree as they get older, but for OSA patients, they notice it's more than the usual/expected. Sustained attention - unable to focus on tasks at work; on computer; in conversations; If they have a diagnosis or are under suspicion of ADHD - should rule out OSA; sleep problems can masquerade as ADHD in kids and even in adults

Follow up: I would like to use a self-report questionnaire to document that. Are any available?
Not specifically for cognitive impairment. FOSQ is good for functional outcomes related to all sleep issues. There is a short version (10 questions instead of 30); covers several domains:

Activity level, vigilance, intimacy and sexual relationships, general productivity, social outcome. Not cognition per se. See:
https://www.thoracic.org/members/assemblies/assemblies/srn/questionaires/fosq.php

Usually we just use the Epworth score at baseline and with each visit.
https://www.cdc.gov/niosh/work-hour-training-for-nurses/02/epworth.pdf

Is there anything on the market that decreases the hassle of having to wash the tubing and mask daily? A lot of folks don't love the extra "chores" of having to care for the CPAP and, if they have a mental health diagnosis, motivation and energy can be impaired. I imagine that using an unclean mask may pose some significant health risks… I usually rehearse the task with them during the clinic appointment; we list what needs to be done and come up with a way of integrating the care and cleaning of the CPAP with existing chores; eg - wake up, take tubing into shower, rinse while standing in there, then put it on a towel next to the bed, so it is dry and ready to go by bedtime, etc. Anything to remove barriers and inertia.

At our clinic, we review "FMLA" requests from employees; we often receive requests "due to" sleep apnea (and completed by family practice docs) for "up to three days off per week." Is that "legit" when they are being treated properly (CPAP, meds, etc.)? Sleep apnea is a treatable condition, and with treatment, daytime functioning should improve. Ongoing need for 3 days off per week needs further justification besides treated sleep apnea. If they are in the adjustment/adaptation phase of getting used to CPAP, they may need some time, but it should not be indefinite.

How to get PAP used for all sleep in patients who fall asleep on a couch or chair unintentionally or reading in bed and sleep untreated for 3-4 hours. Very hard to break this pattern. Any thoughts? These patients may also have a disorder of hypersomnolence but we can't tell until their apnea is treated. For pts who fall asleep on couch/chair or reading - I make them set up an alarm on their phone during the visit with me, which reminds them to put it on; or leverage the bed partner/other family members to support the patient - have them nudge the patient (since snoring bothers the partner); if they read in bed, I will give them a mask that allows them to keep their glasses on to read - then when ready, they just put the book or phone down and go to sleep, since the mask is already on; in that case, we program the machine to "auto-start" where it will give pressure once it senses apneas. If they don't wear it after getting up to go to the bathroom, I ask them to disconnect the hose and NOT remove the mask, then click the hose back on the mask after they go back to bed, to reduce the time fumbling around in the dark replacing the mask.

Do all people who snore have sleep apnea? Or just most?
Snoring does not = sleep apnea. and some patients and bed partners will insist they don't snore! So snoring is one marker (and is often what leads to investigation for OSA)

How does taking pictures of yourself wearing the mask and hanging them up increase C-PAP compliance? Is there data that shows that helps? I've never had patients do that. If it is effective then I would like to do that. It's typically helpful to get them started with CPAP. Seeing themselves with a mask on as a way to start. I find telling patients to put the mask on while watching tv or reading more effective and I typically try that first.

What is the difference between CPAP and INSPIRE which I am starting to see advertised as a get rid of the mask and tube option
INSPIRE is hypoglossal nerve stimulation. an implantable device that has a lead that senses pressure changes in the chest indicating a respiratory event. This device has a second lead that is tunneled under the skin from the chest wall and into the neck and sits on or near the hypoglossal nerve. When a respiratory event is sensed, the nerve is stimulated. The hypoglossal nerve functions to stick the tongue out. Stimulation in this area moves the tongue forward and can increase the tone of the anterior neck musculature and stop the apnea. It is a surgical treatment for apnea.

I only know of gel pads for the bridge of the nose. What would be the approach to skin irritation on the chin or cheeks? The REM ZZZ liners are a bit wider and may help. if the irritation is from the straps, you can get strap covers. or switch to one of the masks with an "i" on the end because it's a different material on the cheeks.

Is using the STOP-BANG screen and the ESS a good approach to knowing when to refer patients with depression, anxiety disorders etc. to a sleep specialist for consideration of whether to have a sleep study? Yes. While these are imperfect, they are a great start. But even if someone doesn't flag on these questionnaires, but has a prominent sleep complaint, sleep specialists are happy to see them.

Please provide a link to order CPAP wipes on Amazon. I have never heard of those.
CPAP wipes (one brand, there are several): One example (not endorsing): Resplabs CPAP Mask Wipes for Masks, Cushions - Alcohol-free, Unscented Cleaning Wipe

Any tips on how best to document- treatment plan/progress note wording for insurance?
Document that you discussed desensitization techniques and that the patient is committed to increasing their compliance because of xxxxx (benefits stated).

What is the connection between sleep aonea and PTSD? Sleep apnea may make PTSD symptoms worse. In general, apnea is more common during REM sleep. This is because most dreaming happens during REM sleep; in order to avoid acting out dreams, the skeletal (voluntary) muscles throughout the body are paralyzed during REM sleep, except for the eye muscles and diaphragm (for breathing), When someone is having a nightmare, they may also have a bad apnea due to the upper airway muscle paralysis; they may wake up choking/gasping and with an adrenaline surge, which makes them remember the nightmare instead of just sleeping through it. CPAP may reduce this phenomenon – they may have bad dreams, but be able to sleep through because the apnea does not interrupt the nightmare. Others have postulated that CPAP may restore REM sleep and therefore worsen nightmares, but I have not found that to be true in my personal practice. The bigger problem with PTSD is co-existing insomnia, which may make it hard to tolerate CPAP. More behavioral and medical support may be needed to get some patients with PTSD adjusted to CPAP. - IG

Sleep apnea can make it harder for PTSD symptoms to be managed because of lack of sleep and restoration (ie. increased fatigue, anxiety, depression). Also, PTSD makes it harder for persons to tolerate masks and treatment. -JM

We've seen increased sleep apnea in service members who are otherwise physically healthy. What etiology is being identified in this type of population? (Answered verbally but if willing to add in writing will include)

In all people – civilian and military – obesity only explains 2/3 of apnea. That means another third are happening in the absence of obesity. The risk factors were listed on the slide (airway structure –recessed jaw and large tongue; heredity; menopausal status, etc) can be other risk factors. Alcohol and some sedating medications as well as some nasal problems can contribute to risk too.

Are you aware of any data regarding suicide and sleep apnea? I'd almost assume there may be a predictive risk model in the data. Say a person with AHI greater than 5, of x duration, with x nights of CPAP non-compliance is at higher risk?

Yes, there is data linking OSA to depression, anxiety and suicidal ideation and planning. It makes sense because sleep is important for regulating emotions; disrupted sleep from any cause can worsen mood problems. Can be even worse if alcohol is involved.

I've seen data correlating PTSD and TBI and sleep apnea. Any data you've seen regarding etiology in these cases? See response to interaction between OSA and PTSD above. There are

some association studies that have linked TBI to OSA. In my opinion, we need larger studies with good control of confounding factors.

Compliance with CPAP continues in many ways to be the biggest issue. What improvements in the equipment seem to be having the biggest impact in compliance. Can you talk about the ways non sleep specialists can still be helpful with their clients using CPAP. At least in the short term, there are data published from Penn that showed that giving patients access to their own compliance data makes a difference; access to own data was even more effective at increasing adherence than paying patients money to use CPAP during the first weeks of treatment (Way to Sleep investigation, Kuna et al). When patients are set up with CPAP, there is an app they can download on their smartphone that allows them to track their own use, and whether their mask was well fitting or leaking, and if there is residual apnea. The LCD display on the CPAP machine can also show this information. I think some patients are very receptive to this. Haven't found a magic bullet though!

Just like other therapies, CPAP adherence is the end result of a wide array of factors that include technology and interface; baseline severity of symptoms; side effects of therapy; patients' knowledge and understanding; patients' physical and cognitive capacity; their personal belief systems; and a large number of other determinants – including social/systemic ones; support at home, etc. All need to be addressed for customized solutions. Non-sleep specialists: ask – are you using your CPAP? Are you skipping nights? Are you taking it off before full sleep is done? If not, why not? Their response to why not will help guide what's next – e.g., if equipment or medical issue verus behavioral, social, etc.

What percentage of patients are "cured" versus needing CPAP for life.
Rare to see "cure" unless there is a large, sustained loss in weight. Have seen this with bariatric surgery and loss of large amounts of weight in some people, but the apnea comes right back with weight regain. I expect this will be true also with the newer weight loss drugs – some patients are seeing improvement or even resolution of apnea; but when they stop the medication and/or regain the weight, the apnea can return. Needs continued surveillance.