

Foreword

By Noah S. Siegel, MD

The more I learn about sleep, the more I am enchanted by its restorative powers and the more I am motivated to better understand its mysteries. How is it that ‘shutting down’ for 7-8 hours per day provides the foundation of so many of our essential bodily functions? Sleep clears of brains of waste products, consolidates our memories, refreshes our muscles, regulates hormones and synchronizes our organ systems. At the end of the day, my mind feels dull, I am more moody and my muscles feel fatigued. Yet in the morning, after a good night’s sleep, I can focus better, my body aches less and I am ready to attack another day. Therein lies the miracle of sleep!

Despite the fact that sleep is essential to optimal functioning, the *majority* of us have sleep problems. Those sleep problems may be as straightforward as not getting enough of it or having difficulty falling asleep. There are also very common intrinsic sleep disorders such as obstructive sleep apnea (OSA) which is the focus of this book. It is well known that individuals with sleep apnea commonly have poor sleep quality.

Sufferers of OSA don’t thrive because they don’t breathe well at night. As a result, their sleep is less restorative. It is often challenging for individuals with OSA to accomplish simple daily tasks. Many sufferers are not productive at work or lack adequate energy to optimally interact with family members. Furthermore, untreated obstructive sleep apnea is stressful to the body and increases risk for hypertension, irregular heart rhythms, stroke and neurocognitive decline such as Alzheimer’s disease.

By now, I may have convinced you that untreated sleep apnea is bad and sufferers need therapy. While continuous positive airway pressure (CPAP) therapy is effective, this

treatment approach is often difficult to tolerate. By 1 year, approximately half of people prescribed CPAP therapy are no longer using it. The good news is that there is no longer a 'one treatment fits all' approach. In this new era of personalized healthcare, doctors are able to match history, physical examination, medical conditions and desires with the treatment that makes the most sense for that individual. Treatment options also include oral appliance therapy, airway surgical procedures, positional therapy, weight loss therapy and surgically implantable devices.

Over the years, I have developed strong clinical partnerships with sleep dentists who offer oral appliance therapy for individuals with OSA. I steer my patients toward dentists who have committed themselves to the practice of dental sleep medicine. With so many oral appliance devices on the market, clinical experience is essential to select the right device and to make the necessary adjustments. If you're reading this, clearly you are working with a dentist who is passionate about helping people with sleep apnea.

In closing, I would like to congratulate you on taking the proactive step of picking up this book. Let this be the first in a rewarding journey toward unlocking the *restorative powers of your sleep*.

Sleep well,

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Introduction

By Jamison R. Spencer, DMD, MS

*Small Airway, Big Problem—How
Sleep-Disordered Breathing May Affect Women,
Children and Skinny Dudes*

When most people think of sleep apnea they think of heavy, older men.

Even medical doctors tend to only consider sending heavier, older men for sleep studies, even though younger, thinner people may present with similar symptoms.

In this book we will describe the basics of sleep, many of the important things that sleep impacts, how to get a good night's sleep, and what happens if we don't.

Our brain sometimes has to make a decision between what's good in the long term and what's necessary immediately.

Breathing **MUST** be maintained, or there will be no more "long term."

So why are dentists involved in this field?

Because we've learned that some people will clench and/or grind their teeth while they sleep due to an unconscious attempt to keep their airway open.

Because we've learned that such clenching and grinding can not only lead to damaging the teeth and any "restorations" (like crowns, bridges, dental implants,

etc.), but can also contribute to TMJ problems, facial pain and headaches.

Because we've learned that even periodontal disease, or "gum disease" seems to be worse in people with sleep apnea.

And because dentists have a simple and easy to use therapy that is effective for most people with sleep disordered breathing issues, called "oral appliance therapy."

Oral appliance therapy, in a nutshell, involves wearing a small, custom made device on the teeth that keeps the lower jaw from falling back and obstructing the airway.

If you've ever taken a CPR course you probably remember, "head tilt, chin lift." This procedure is performed to help open the airway on the unconscious person so that when air is blown into them it actually goes into their lungs.

Several of the main muscles of the tongue attach to the lower jaw, just on the inside of the chin. Bringing the lower jaw forward has a tendency to open the airway.

You can experience this yourself. Make a snoring noise in the back of your throat (plug your nose to make sure it's in your throat and not in your nose). Now thrust your lower jaw forward and see if it changes how hard it is to make the noise. For most people, it will be harder to make the noise. This is because the airway is now more open.

The problem is, you can't just hold your jaw forward all night by yourself.

As you'll learn in this book, in dream sleep our muscles become "more floppy," sort of paralyzed, and this makes it even easier for the airway to become even smaller or collapse. Sleeping on our backs also makes it easier for the airway to become restricted.

CPAP, or continuous positive airway pressure, is an excellent treatment for sleep apnea in which the patient wears a mask attached to a machine that blows air to keep their airway open in all dimensions. For those who can tolerate its use, it's fantastic and can absolutely change their life. As dentists we always encourage our patients to stay on their CPAP if they can use it, and we prefer for patients with more severe sleep apnea to at least try CPAP.

CPAP is AWESOME... UNLESS YOU CAN'T USE IT

When this book was written we were in the midst of the coronavirus crisis.

This global crisis affected almost everyone physically, emotionally, and financially, and we will feel the ripple effects for many, many years to come, and certainly never forget the experience for the rest of our lives.

As doctors and scientists looked to keep people safe from the coronavirus all manner of things were deployed from simple reminders about hand washing to social distancing to wearing masks and other protective gear. Such proactive devices and practices were intended to reduce the spread of the virus.

One area that could have easily been overlooked was the use of CPAP therapy in the hospital, as well as in the home.

Doctors with the American Academy of Sleep Medicine published the following guidance on their website:

The screenshot shows the AASM website header with navigation links: Clinical Resources, Professional Development, Membership, Accreditation, About, Store, and a search icon. There are buttons for 'JOIN TODAY' and 'LOG IN'. The main content area features a blue header with the question: 'Should patients with COVID-19, or suspected of having COVID-19, use CPAP at home?'. Below this, a paragraph states: 'If a patient is suspected or confirmed to have COVID-19, we suggest assessing risks and benefits of continuing to use a PAP (CPAP/BPAP) device at home.' A section titled 'Considerations include:' follows, with a sub-section 'WHAT ARE THE RISKS OF CONTINUING PAP THERAPY?' containing a bulleted list of risks. Another sub-section 'WHAT ARE THE RISKS OF DISCONTINUING PAP THERAPY?' contains another bulleted list of risks. The page concludes with a paragraph: 'The decision of whether to continue or stop PAP therapy should be based on whether the risk:benefit assessment favors continued therapy.'

AASM American Academy of SLEEP MEDICINE™

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Should patients with COVID-19, or suspected of having COVID-19, use CPAP at home?

If a patient is suspected or confirmed to have COVID-19, we suggest assessing risks and benefits of continuing to use a PAP (CPAP/BPAP) device at home.

Considerations include:

WHAT ARE THE RISKS OF CONTINUING PAP THERAPY?

- There may be increased risk of transmission of COVID-19 to others in the environment if PAP is continued.
- Consider individuals residing in proximity to the patient, especially if they are **at risk for severe infection**. Dispersion of the virus with PAP is theoretically greater with than without PAP, but how much the risk to others changes specifically because of PAP therapy is not known.
- Viral particles may persist for some time depending on the type of surface.
- Persons at risk for infection from using PAP include co-habitants of the same dwelling.
- Additionally, whether it is possible for the patient to be re-infected from tubing, filters, and/or mask reuse is not known.

WHAT ARE THE RISKS OF DISCONTINUING PAP THERAPY?

- OSA is a chronic disorder, and the risk of stopping PAP for a limited period of time until the patient is no longer contagious may be manageable, depending on the severity of the disorder and symptoms. Without PAP, however, some patients may experience an increase in health risks in the short term, such as accidents, safety incidents, falls, or cardiovascular events.
- If such acute risks are identified, risk-mitigation strategies may be appropriate, such as advising the patient to stop driving, adhere to fall precautions, and consult with their treating physician to optimize medical management of background medical conditions.
- Using positional therapy or an oral appliance (if the patient already has one), limiting the use of alcohol and sedating medications, and addressing nasal congestion may also be effective for some patients.
- If these short-term risk mitigation strategies are insufficient, and a decision is made to continue PAP in a patient who has confirmed COVID-19, or is suspected of having COVID-19, the patient should be advised to **maintain strict quarantine** and consider strategies for protecting household contacts.

The decision of whether to continue or stop PAP therapy should be based on whether the risk:benefit assessment favors continued therapy.

There were also concerns regarding using CPAP in the hospital. One sleep physician that we spoke with referred to CPAP as a possible “viral sprinkler,” and we discussed ways that oral appliances could be used during the period that the patient wasn’t able to use their CPAP.

That same sleep physician mentioned how the coronavirus crisis had made him reconsider putting all of his patients on CPAP and that moving forward he was more likely to recommend oral appliance therapy, particularly for his mild and moderate patients.

It is highly likely that the companies that manufacture CPAP machines will quickly develop a way to keep the machine from being “a viral sprinkler,” and possibly by the time you read this that will no longer be a concern.

However, if you use CPAP you know that there are times when it is difficult, or maybe even impossible to use your CPAP the way you’re supposed to.

Such times might include:

- When you have a head cold
- When you are suffering with allergies
- When you have a stuffed up nose
- When there is a power outage
- When power is not available
- On a long flight

Having an oral appliance as a backup to your CPAP just makes sense.

If you wear glasses you probably have more than one pair. And just like your vision is critical to your health and happiness, so is a good night’s sleep.

Perhaps one of the unexpected benefits of using an oral appliance as a CPAP backup is that any potential side effects, such as minor tooth movement or transient discomfort, tend to be eliminated since the device is only used from time to time.

We have had many people over the years use an oral appliance as a CPAP backup. Some people choose to use their CPAP several nights a week, and their oral appliance a few nights a week, thus eliminating any of the potentially annoying side effects they may experience over time with nightly use of either therapy.

Oral appliance therapy is not just for people who can't use their CPAP. CPAP is an excellent treatment for obstructive sleep apnea, but even the best treatment is completely ineffective if it can't be used. And going even one night without therapy is not a good idea.

You may recall a few years ago that US Supreme Court Justice Antonin Scalia was found dead in bed, with his CPAP sitting on the nightstand next to him, not even plugged in.

Related to this, Dr. Nancy Collup, a sleep physician and then Editor-In-Chief of the Journal of Clinical Sleep Medicine, wrote:

We don't want to use scare tactics to convince our patients to use their CPAP nightly. But for patients with cardiovascular risk factors like Justice Scalia, missing their CPAP for one night could set them up for increased risk of sudden death and stroke; perhaps even taking it off early may increase the risk since REM sleep is often later in the night and the most vulnerable stage of sleep for OSA patients.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4865546/#>

If you, or someone you love, is using CPAP, please consider having an oral appliance as a backup. Going without treatment for even a single night is not a good option, and with oral appliance therapy being easy,

effective and affordable getting a backup is super simple to do.

I hope that you will enjoy this book. Please feel free to jump around. It's not a novel. Look for the topics in the Table of Contents that interest you the most right now whether you are looking for information for yourself or a loved one. Mark it up and tag the pages that you want to talk to your sleep dentist about. The more you read the more likely you'll start to see signs and symptoms of sleep disordered breathing in those around you. This is an EXTREMELY common problem, with the vast majority of those with the problem undiagnosed and untreated—many of whom are being treated for other presumed issues, rather than the core issue.

We wrote this book to be informational. It is not designed to be a summary of current research. It is based on clinical experience and research evidence, with a strong leaning toward the day-to-day practical experience of helping literally thousands of people suffering with sleep-disordered breathing.

Perhaps it can help you or a loved one too.