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Why Is Everyone on CPAP Machines?

Analysis by Dr. Joseph Mercola | November 02, 2023

STORY AT-A-GLANCE

- Sleep apnea is a condition where you repeatedly stop breathing during sleep. Six million Americans have a diagnosis of sleep apnea, but another 25 million or more may be struggling undiagnosed. Sleep apnea is also becoming more prevalent among children
- Snoring is a related problem, caused by a restriction in your airway stemming from either your throat or nasal passageway, and typically precedes more severe sleep apnea by several years
- Lack of breastfeeding, the preponderance of processed food — which has predisposed several generations to a combination of obesity, malformed mouths and unnaturally small airways — and rampant vitamin D deficiency from lack of sun exposure appear to be primary causative factors for the steady rise in sleep apnea
- One of the most frequently used treatments is a continuous positive airway pressure (CPAP) machine, which straps around your face and uses mild air pressure to keep your airways open while you sleep. However, CPAP does not address any of the potential underlying causes of sleep apnea
- Better solutions include oral devices that correct your tongue or jaw position, and oral myofunctional therapy, a form of facial muscle therapy that helps reshape your oral cavity and promote proper placement of your tongue, head and neck

The continuous positive airway pressure (CPAP) machine was invented 40 years ago to treat severe cases of sleep apnea, a condition where you repeatedly stop breathing

during sleep. The CPAP, which straps around your face, covering your mouth, nose, or both, uses mild air pressure to keep your airways open while you sleep.

You can usually tell someone's using a CPAP from the tell-tale strap marks on their face first thing in the morning. Matthew Rozsa, a staff writer for Salon magazine, describes the sensation of CPAP as "extremely unnatural and unpleasant,"[1] but like most other users, finds it preferable to the dead-tired feeling that sleep apnea causes.

According to the American Medical Association,[2] 6 million Americans have a diagnosis of sleep apnea, but another 25 million or more may be struggling undiagnosed.[3] "Virtually anyone who snores is ... on the spectrum for sleep apnea," Rozsa writes. Indeed, snoring typically precedes more serious sleep apnea by several years.

Disturbingly, sleep apnea is also becoming more prevalent among children. So, what's going on? Why are tens of millions of Americans unable to breathe at night, including children?

Ultimately, the answer comes down to a combination of lack of breastfeeding, the preponderance of processed food — which has predisposed several generations to a combination of obesity, malformed mouths and unnaturally small airways — and as discussed in the video above, rampant vitamin D deficiency from lack of sun exposure.

Sleep Apnea Can Cause Severe Debilitation

Sleep apnea occurs when you have obstructions in your airway that interfere with your breathing during sleep. The flow of air can be partially blocked or even completely stopped altogether. Central apnea refers to an inability to properly pull air in, whereas obstructive apnea refers to a frequent collapse of the airway during sleep, hindering breathing for periods that can last for several seconds. Mixed apnea is a combination of both.[4]

Snoring is a related problem, caused by a restriction in your airway stemming from either your throat or nasal passageway. It's the vibrations as the air struggles to get

through your soft palate, uvula, tongue, tonsils and/or muscles in the back of your throat that cause the snore.

A simple tip that can help prevent snoring is to place a small piece of inexpensive paper tape across the entire length of your lips at night to prevent mouth breathing. Obviously, do not use any type of industrial tape that can damage your skin.

This strategy works very well to virtually eliminate mouth breathing and, secondarily, apneic episodes. Of course, you should not do this if you have obstruction in your nasal passages, or a cold. Not only do these breathing disruptions interfere with sleep, they also promote poor health and chronic disease by:

Reducing the amount of oxygen in your blood, which can impair the function of internal organs and/or exacerbate other health conditions you may have.

Accelerating cellular aging by shortening your telomeres. Recent research shows consistent CPAP use for at least three months will attenuate this acceleration.[5]

Slowing down or preventing critical detoxification of your brain tissue, as your brain's waste removal system, known as the glymphatic system, only operates during deep sleep.

Disrupting your circadian rhythm, resulting in reduced melatonin production and disruption of other body chemicals.

Increasing sympathetic tone, causing problems with bed-wetting among children, night sweating, night terrors, restless sleep and anxiety.

Interfering with deep sleep, contributing to lack of focused attention during the day. Children with sleep apnea also display troubling brain changes in areas involved with thinking and problem solving.[6]

Sleep Apnea Takes a Toll on Your Brain Health

As the list above suggests, sleep apnea can have a severe impact on your health, placing you at increased risk of high blood pressure, heart disease, diabetes, stroke, mental health problems and dementia.[7]

For example, a 2015 study[8] found that patients with sleep apnea and/or snoring were diagnosed with mild cognitive impairment more than a decade earlier than those without sleep apnea.

> **“Sleep apnea can weaken the integrity of the white matter in your brain, cause anatomical changes in your brainstem, and lower the volume of gray matter, the outer layer of the brain associated with high-level brain functions.”**

On average, those with untreated obstructed sleep apnea started experiencing cognitive impairment at the age of 77, compared to 90 among those without breathing problems. Meanwhile, those who used a CPAP machine started their mental decline at the same age as those who did not have sleep apnea.

The neurological impacts of sleep apnea likely have to do with the fact that it can weaken the integrity of the white matter in your brain, cause anatomical changes in your brainstem,[9] and lower the volume of gray matter, the outer layer of the brain associated with high-level brain functions such as problem solving, language, memory, personality, planning and judgment.

Indeed, children with sleep apnea have been found to have substantially lower gray matter volume than those without sleep apnea.[10]

Recent research has also found that people with amyloid plaques in their brains who also have severe sleep apnea are more likely to have lower brain volume in the medial temporal lobe,[11] which is an early indicator of Alzheimer’s disease. However, there was

no association between brain volume and sleep apnea among those who did not have amyloid plaques.

Common Causes for Sleep Apnea

The most frequently cited cause for sleep apnea in adults is obesity, which contributes by putting excess pressure on your upper airways, resulting in collapse and decreased neuromuscular control. As explained by Obesity Medicine:[12]

> *"Neck circumference, waist circumference, and waist-to-hip ratio are also considerations when addressing overweight or obesity and suspecting sleep apnea. Neck circumference greater than 17 inches for men and 16 inches for women raise the risk of both obesity and sleep apnea.*
>
> *Waist measurements equal to or greater than 40 inches in men and 35 inches in women also raise the risk factor. Waist-to-hip ratio can also be calculated to assess for additional risk equivalent.*
>
> *This ratio is determined by dividing the waist measurement by the hip measurement. The greater this ratio, the more significant the risk factors for sleep apnea and other obesity-related disorders ...*
>
> *Weight loss has been found to reduce the severity of sleep apnea as well as the development of the disorder. Overweight and obesity remain the most important modifiable causes of sleep apnea."*

Other common causes include physical obstructions such as enlarged tonsils or adenoids, aging and, believe it or not, vitamin D deficiency. As explained by Dr. Stasha Gominak in the featured video, vitamin D receptors in your brain stem actually control your ability to move in and out of the various sleep phases.

Vitamin D is also needed to produce acetylcholine, a neurotransmitter that helps you get into the deeper, healing phases of sleep, and controls the normal paralysis that occurs

during deep sleep. You also need the raw material, choline, to produce sufficient amounts of acetylcholine.

Choline is typically obtained from animal foods. The highest concentration is in egg yolks. To learn more about the hidden connection between vitamin D and sleep, listen to my interview with Gominak, or check out the **accompanying Substack article**.

Moving Beyond CPAP

While 80% of regular CPAP users report significant improvements in their sleep apnea symptoms,[13] the machine was never intended to be a lifelong solution. As noted by the inventor of the CPAP, Dr. Colin Sullivan,[14] it was always only intended to be a temporary measure, while the underlying factors are addressed. It was never designed as a permanent therapy.

As mentioned, one such factor would be obesity. Simply losing weight can often ameliorate the problem or eliminate it entirely. Another would be surgical procedures to remove obstructions, such as enlarged tonsils or adenoids.

The size and shape of your mouth and upper airway are also very important, and if this is the root of the problem, you have other options besides CPAP, including:[15]

- **Oral devices —** If your sleep apnea is related to tongue or jaw position, specialty trained dentists can design a custom oral appliance to expand your palate and bring your jaws forward to address the issue.

  For adults, these appliances include tongue-retaining devices that shift the tongue forward without moving the jaw, and mandibular repositioning devices, designed to shift the jaw forward. You can learn more about this in "**A Mouth Guard as Effective as CPAP for Sleep Apnea?**"

  The oral appliance approach has been recognized as part of the standard of care for sleep apnea since about 1995, and oral appliances are typically recommended as the first line treatment for mild to moderate sleep apnea for adults. One source

where you can find a treatment specialist familiar with oral appliances is the American Academy of Dental Sleep Medicine.[16]

- **Oral myofunctional therapy (OMT) —** OMT is a form of facial muscle therapy that helps reshape your oral cavity and promote proper placement of your tongue, head and neck. To find a qualified therapist, see the **Academy of Orofacial Myofunctional Therapy's** website.[17]

- **Neuromuscular electrical stimulation (NMES) devices —** These devices include a removable mouthpiece that is worn for 20 minutes once a day for six weeks, while awake. The device stimulates and tones your tongue and upper airway muscles to prevent them from collapsing during sleep.

- **Surgical intervention** to enlarge your upper airway by moving your upper and lower jaw forward.

Learning to consistently breathe through your nose rather than your mouth can also be very helpful. Mouth breathing results in over breathing, which lowers the availability of oxygen. By consistently breathing through your nose, your breathing volume will be brought back to normal. This in turn allows for optimal oxygenation of tissues and organs, including your brain.

I have just completed a 40-hour course on respiratory physiology and breathing with the leading breathing expert in the world, Peter Litchfield, Ph.D. I hope to have him on my podcast later this year to discuss his mind-blowing work, which is absolutely essential for anyone with a breathing disorder.

He uses a clinical grade capnometer in his work to objectively assess what is going on with the breathing so there is absolutely no guessing. The capnometer can be purchased for about $3,000 or rented. It's absolutely fascinating work that I am excited to share in the near future.

Guidance for Parents

As mentioned, more and more children are also being diagnosed with sleep apnea, which can have lifelong consequences. In his article, Rozsa quotes Sullivan, the inventor of the CPAP:[18]

> *"I've spent a lot of half my career looking at pediatric sleep apnea, sleep disorder breathing, and I do think that trying to intervene early, identifying kids who have the risk factors, gives us a chance of preventing it."*

While obesity is a risk factor for children as well as adults, an increasingly common root cause is related to an improperly shaped mouth and incorrect positioning of the tongue, caused by lack of breastfeeding and being raised on infant formula and processed foods.

Dr. Weston Price's pioneering work showed how diet can affect your entire mouth, yet most people are still clueless about this effect, and how the size and shape of your oral cavity affect the placement of your tongue and your overall ability to breathe properly.

Our mouths have actually gotten progressively smaller through the generations due to lack of breastfeeding and not chewing enough, combined with poor childhood nutrition thanks to a preponderance of processed food devoid of crucial nutrients.

Breastfeeding helps expand the size of your child's palate, shifting the jaw forward — two important factors that help prevent sleep apnea by creating ample room for unobstructed breathing.

Tongue placement also plays an important role, as revealed in a 2015 study on pediatric patients.[19] The newborn palate is as soft as a drum, and if we place into it a bottle, pacifier, a spouted cup or the child finds his or her thumb, the palate may deform, making the nasal airway smaller.

Having an abnormally short lingual frenulum[20] can also result in impaired orofacial growth in early childhood, reducing the width of the upper airway. The upper airway is very pliable, so this increases the risk of it collapsing during sleep.

The study found that children with an untreated short frenulum developed abnormal tongue function early in life, which also impacted their orofacial growth and led to disordered breathing during sleep.

The researchers suggested pediatricians and otolaryngologists should systematically examine the lingual frenulum in children exhibiting difficulties such as trouble sucking, speech impediments, snoring or other breathing problems.

They also noted that while removing the frenulum can be helpful, it typically will not resolve all abnormal breathing patterns, so oral myofunctional therapy, both pre- and post-surgery is recommended to restore normal breathing through the nose.

The Importance of Breastfeeding

Diet is also important for proper formation of the mouth, and starts with breastfeeding. One of the reasons sleep apnea is now starting to affect a growing number of young children may have to do with lack of breastfeeding, which sets the stage for abnormal development of the child's mouth. A processed food diet during early childhood further adds to the problems created by an improperly shaped oral cavity.

Dr. Kevin Boyd,[21] a dentist at Lurie Children's Hospital in Chicago who is a major advocate of baby-led weaning, has compared modern Westernized infant feeding regimens to what he calls "ancestral-type" on-demand infant feeding regimens and the subsequent differences in mouth and facial bone structure.[22]

It turns out that when children are fed the way they were designed to be fed, it stimulates the structure of the mouth and facial bones to develop in an optimal way. This begins with EXCLUSIVE breastfeeding, ideally for the first six months, followed by a gradual introduction of solid food while continuing to breastfeed for up to two years.

Alternative methods of feeding for those who cannot breastfeed, for whatever reason, are specially designed cups. Feeding a child from a cup with a small arc cut out for the baby's lower lip is far better than using baby bottles with synthetic nipples.

This kind of cup encourages the baby to use their oral anatomy similarly to how it is used at the breast. Avoid the temptation to use a regular spouted cup as it will discourage correct oral function, including encouraging the tongue to rest up and the palate to form the proper width and develop the airway.

The reason to avoid using a baby bottle is because it does not allow the natural suction a baby exerts on the breast. The slightest pressure of the baby's tongue pushing on the baby bottle nipple rewards the baby with milk, thus encouraging incorrect use of the oral anatomy.

It was assumed that babies massage the milk via a peristaltic wave motion, pressing the nipple up against the roof of the mouth. Alas, all of these assumptions have been solidly disproven by renowned lactation researcher, Donna Geddes, Ph.D.[23,24]

What actually happens is, a vacuum is created when the middle of the baby's tongue comes down, which helps express milk from the breast. Next, the forward part of the baby's tongue pushes the mother's nipple inside, right behind the two front teeth. This motion explains why ancestral feeding widens the jaw, and pushes both the upper and lower jaws forward. It also pushes the cheekbones in the mid-face forward.

The sucking motion on the breast essentially acts like a piston that pushes the baby's mid-face outward. When a child is bottle fed, none of this happens, resulting in a narrow facial structure and poorly defined jaw. The anatomically incorrect palate and poorly aligned jaw bone also crowd teeth, resulting in crooked teeth.

Treating Root of Sleep Apnea Can Result in Better Health

If you or your child snores or has sleep apnea, I would encourage you to find a qualified sleep specialist to identify the root cause and help you address the sleep apnea at the foundational level. Many have little in their tool bag besides a prescription for a CPAP machine, so you may have to do some homework and search around a bit.

While a CPAP can provide symptom relief, it does not address the root problem, and is difficult to use, clean and maintain to boot. Besides, a mask on your face and a noisy,

EMF-emitting machine next to your bed hardly encourage deep, restorative sleep.

As a general rule, the oral devices and OMT tend to be among the best solutions, as over time they will improve the size and functionality of your mouth and airways so that you don't need either anymore. Ideally, you'd want to use them together.

If you're about to become a parent, also remember that how and what you feed your baby can go a long way toward preventing sleep apnea from ever becoming a problem for your child.

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