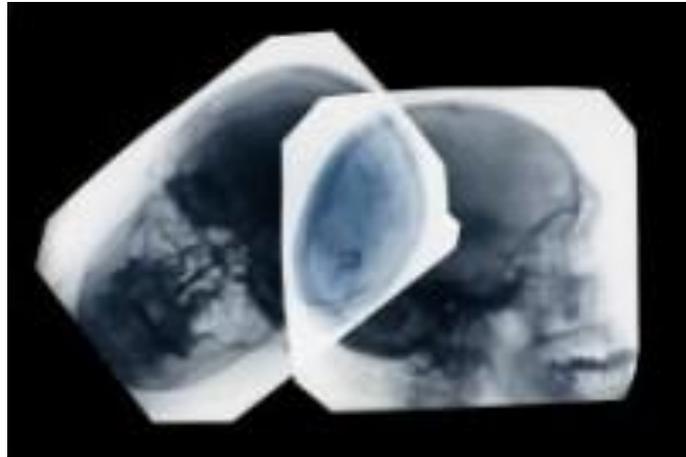


Sleep Apnea is a Craniofacial Problem



As a resident during otolaryngology training, I rotated in the medical center's craniofacial clinic, seeing various disorders that lead to underdeveloped or malformed facial or skull structures. These syndromic children clearly had severely asymmetric faces or underformed jaws. In many cases they had breathing problems requiring surgery.

One of the more common conditions you'll see in such a clinic is Pierre Robin sequence, where due to improper maturation of the lower jaw, the lower chin is recessed severely. You'll see milder variations of this all the time, but if severe enough, these people can't breathe, especially at night.

Treating only the Extremes

One of the problems with modern medicine is that we name and treat only the extreme end of a continuum, or only when significant problems result. Having a slightly recessed chin may be thought of a person's normal facial feature, and his or her ability to breathe is never even considered.

The entire basis for my sleep-breathing paradigm is that all modern humans have constricted facial structures, not due to a congenital or genetic problem, but due to our eating and lifestyle habits. Genetically, we're all programmed to have relatively wide jaws, with room for all your wisdom teeth. Now, that rarely ever happens. This is why obstructive sleep apnea can be described as a mild craniofacial condition that can significantly affect your upper breathing passageways.

Small Jaws, Small Airway

It seems that almost everyone these days will need braces to fix crooked teeth or narrow dental arches. Dental crowding by definition means that your upper and lower jaws are underdeveloped. This creates less total volume inside your mouth, leading to overcrowding of your tongue. Your tongue can then fall back easier when on your back, and when in deep sleep, due to muscle relaxation, you'll stop breathing more often at night.

Even your nose can be affected by this problem. Since your nasal sidewalls follow your upper molars, the side to side distance in your nose will be narrower, and as the roof of your mouth (nasal floor) gets pushed up, it'll also cause your septum to buckle.

If you add additional inflammation and swelling in your nose (due to colds, allergies or non-allergic rhinitis), your nose will become stuffier faster, and even worse, your nostrils will cave in easier.

Having underdeveloped upper jaws prevents proper cheekbone fullness, giving your mid-face a sunken-in look. This type of facial appearance is so common these days that it's almost accepted as normal. I remember reading in the New York Times a few years back where they reported that women's preferences for male actors has changed from the classic square-faced, angular facial features, to softer, more feminine, rounded faces.

Despite having some good first line options such as CPAP or oral appliances, these approaches don't really address the root cause. If your child's jaw was severely underdeveloped and your choice was either lifetime CPAP or jaw enlargement, which would you choose? What if, rather than cutting the jaws and pulling it forward, you can apply distraction plates that can be pulled slowly, little by little, to normalize the jaws and improve the airway significantly? What about advanced dental appliances that can expand your upper and lower jaws in three dimensions, making more room for your tongue? With current technology, we can modify your jaws significantly. But for adults with obstructive sleep apnea, any kind of surgical or dental modification of the jaws is only considered as a last resort.

I describe obstructive sleep apnea as the end extreme of a continuum of sleep-breathing disorders. Similarly, if you look at obstructive sleep apnea as being a craniofacial problem, everyone will have various degrees of jaw underdevelopment. If you have impacted molars, or had to have your wisdom teeth taken out, then your breathing passageways are compromised.

Not only are your jaws more narrow, but the soft tissues that line your breathing passageways will be much more likely to become inflamed and cause even further obstruction. Frequent obstructions can cause a vacuum effect in your throat which literally suctions up your normal stomach juices into your throat, promoting more inflammation and swelling. These juices (which include acid, bile, digestive enzymes and bacteria) can then also reach your nose, sinuses, ears and even your lungs, causing additional inflammation and swelling. If your nose is stuffy, then a vacuum effect is created downstream in your throat and the tongue can fall back much easier, whenever you're in deep sleep (due to muscle relaxation).

Our Airways Are Like Plumbing

In the medical community, craniofacial problems are generally treated surgically. Even with plumbing, if you only open up one area of multiple clogged areas, the pipes will still be clogged (like doing a UPPP). Sometimes you can put in “Drano” to soften the clogging and open up the passageways (like allergy medications), but after years of buildup and accumulation, you have to physically open up all the blocked areas. You can also use a plunger to force the water down the drain (like CPAP), but you know that sooner or later, it’ll get clogged again. The older the pipes, the worse it becomes (old age).

CPAP and oral appliances are both important and necessary tools to treat the vast majority of people with sleep apnea, but we also need to open our minds to the idea that we shouldn’t have to sleep with gadgets or devices for the rest of our lives.

A Modern, Western Dilemma

It’s commonly known that our brains are getting bigger over time. As modern human’s mid and lower faces get smaller and smaller, I predict that in a few hundred to a few thousand years, everyone will be tethered to a hose while sleeping, like in the science fiction movies. Maybe vocal speech and communication will not be needed anymore, and we’ll be able to communicate with mental telepathy. We’ll all begin to look like that alien in the old Star Trek episode with the huge brain and a tiny face.

Sadly, it’s already started. If you look at the younger generations, you’ll see how narrow their dental arches are, along with flat cheekbones and narrow nasal widths. Recently, I happened to see an Amish chorus singing songs in the Grand Central subway station. I was amazed how most had very prominent cheekbones, well-formed jaws, and good looking smiles. It’s not surprising that cultures that eat organically and off the land will have more fully developed jaws.

So the next time you’re sitting in an auditorium and a public place with lots of people, think about that classic first day of college speech by the dean or president:

“Look to your left...and look to your right. At the end of this year, one of the two that you see will not be here with you.”

Similarly, every other person sitting next to you will most likely have smallish jaws, and have an undiagnosed sleep-breathing problem. From a craniofacial standpoint, they won’t be able to sleep well due to narrowed breathing passageways. If you end up befriending or marrying one of these people, now you’ll understand what makes them tick, or sick.

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