Obstructive Sleep Apnea and Orthodontics

You may think that obstructive sleep apnea (OSA) could never affect you. Your body mass index (BMI) is normal, you exercise often, and you are healthy. But did you ever have extra teeth removed, endure braces, and/or wore headgear? This most likely would have been in your teens. Your parents were told that your jaw was too crowded, and removing your bicuspids was the solution. Nobody knew back then what the consequences could be. If you snore, are sleepy, and make stupid mistakes often, then you may need a sleep study.

According to an article on Apnea.Today ("Can Orthodontics Cause Sleep Apnea? What Parents Should Know"), what may have happened is that the orthodontics “distorted the growth and development of your facial structure. The headgear made your upper and lower jaw grow down and back instead of forward. There was also less room in your mouth for your tongue, which of course, kept growing.” An article in American Scientist ("The Root of Misaligned Jaws") states that, “This intervention lets the tongue drape back into your throat during sleep.” The combination of all this could have caused, as Apnea.Today puts it, “overcrowding of other soft tissues in your mouth.”

Now, the dental community is rethinking its approach. Orthodontists are studying patients who don’t fit the normal OSA profile. One study by the National Institutes of Health ("The Role of Malocclusion in non-obese patients with obstructive sleep apnea syndrome") concluded that malocclusion in patients with a low BMI may play an important role in the development of sleep apnea/hypopnea.

On top of that, the American Scientist article also points out that mouth breathing from allergies or nasal congestion can also alter jaw development and lead to sleep apnea.

So, how does this affect you now? If you do not fit the standard profile of a person with sleep apnea but do have trouble sleeping and fit the profile described above, consider getting a sleep study. It may be difficult to take seriously when you are young and healthy, and you will likely have to advocate strongly for your health, but it’s certainly worth checking to see if this affects you. While there is no epidemic of OSA, and it is still being studied, this might be what is affecting you. See a sleep specialist and let the professionals find an answer. Today, most sleep studies are done at home with a portable testing device in the comfort of your own bed. Do not let this go undiagnosed; it could change your quality of life and that of your bed partner.

Additional Info:
From the Gateway Medical Center (Anaheim, Calif.) During Sleep Awareness Month
"According to the National Institutes of Health, 50 to 70 million Americans are affected by chronic sleep disorders and other sleep-related problems that can significantly diminish overall health, alertness, and safety. Left untreated, sleep disorders have been linked to heart disease, stroke, hypertension, depression,
diabetes, and other chronic diseases. Side effects of poor sleep may even be mental, such as a lack of short-term memory, disorientation, and mood swings. And driving while exhausted is as bad as driving drunk. Sleep problems may involve too much or too little sleep, or poor quality of sleep.” (Source.)

Sleep Apnea Sign: High Blood Pressure
By: Dr. Sarah Tevis Poteet, DDS, PA

Why is high blood pressure a symptom? Two reasons:

1. There is a sympathetic (emergency) response in the body every time an apnea or hypopnea occurs.
   a. Heart rate and blood pressure increase
   b. OSA Patients have hundreds of events per night, thus the body remains in a constant state of elevated blood pressure.
2. Because the body is not getting sufficient oxygen, it is not converting enough into nitric oxide.
   a. Nitric oxide is a vasodilator; without nitric oxide, blood vessels narrow.
   b. The endothelial lining of the arteries breaks down, making them more susceptible to plaque and fatty tissues building up.
   c. Narrow arteries with high risk of blockage = high blood pressure, heart attack, and stroke.

Low oxygen levels signal blood pressure to rise:
As oxygen levels fall, receptors in the brain are triggered. The result: Your brain sends a message to the blood vessels to increase the available oxygen to the heart and brain so the body can keep functioning. This increase in blood flow puts pressure on the blood vessels’ walls, elevating levels to higher than normal. For this reason, if someone has sleep apnea, their risk of high blood pressure is greater. (Source.)

From the American Dental Association
The American Dental Association (ADA) has “new” guidelines for dentists to screen patients for Sleep Breathing Disorder (SBD) and helping treat obstructive sleep apnea with oral appliance therapy. Learn more.

According to notes adopted by ADA’s 2017 House of Delegates: “Dentists can and do play an essential role in the multidisciplinary care of patients with certain sleep related breathing disorders and are well positioned to identify patients at greater risk of [sleep-related breathing disorders] SRBD. SRBD can be caused by a number of multifactorial medical issues and are therefore best treated through a collaborative model. Working in conjunction with our colleagues in medicine, dentists have various methods of mitigating these disorders.” (Source.)