

Sleep Apnea & Impaired Oral Function How Dentistry Relates to Heart Disease, Stroke and Diabetes By Arthur M. Strauss, DDS

In previous Your Health Magazine articles, I discussed my observations on how the body prioritizes for its survival, as illustrated in the CPR (cardio-pulmonary-resuscitation) sequence of

- Airway (A)
- Breathing (B)
- Circulation (C)

This sequence is active all of the time, managing body balance and survival through the autonomic nervous system (ANS).

In this article, I will discuss the relationship between heart disease, stroke and diabetes, and obstructive sleep apnea and impaired oral function.

The jaws, teeth, cheeks and lips make up the mouth and influence the posture, position and contour of the tongue, the back of which serves as the front wall of the throat. The tongue is the only dynamic part of the throat (the airway), thus controlling its size and shape. The rest of the throat is essentially immobile or minimally mobile.

The tongue moves in and out of the throat as we speak, swallow and breathe. Its shape changes to control the aerodynamics of speech and enunciation.

Dentistry is responsible for the oral cavity, maxillofacial area and/or the adjacent and associated structures and their impact on the human body. These structures house the tongue and determine its shape, posture and position in controlling the opening of the airway, and our access to air.

Apnea, Greek for without wind (breath), from obstructed (narrowed or blocked) airway, is a 24 hour problem threatening airflow and life. To survive, the body reacts by compensating to keep the airway adequately opened through:

- An increased state of “fight or flight” as in an adrenaline response via ANS
- Postural changes, often characterized by forward head posture, and changes throughout the body including muscles and joints
- Clenching and grinding of the teeth, which leads to most TMJ symptoms

How the body compensations varies based on the environment, and whether the person is awake (obstructive apnea) or asleep (obstructive sleep apnea). These compensations have secondary impacts everywhere.

The adrenaline response of a rapid heard rate, increased breathing rate, elevated blood pressure and apnea induced negative pressure in the head, neck, throat, stomach and chest can impact those who have or are at risk for heart disease or stroke.

Weight gain and diabetes may result due to the increased demand for blood sugar to meet muscle demands in order to maintain the adrenaline response a compromised body posture and clenching teeth.

Clearly, “impaired oral function” in dentistry can cause more than restless nights. It can serve as the origin of heart disease, stroke and diabetes.

How Dentistry Is Connected To Heart Disease, Stroke, and Diabetes

Dentistry → Mouth (jaw, teeth, cheeks, lips, etc.) → Tongue → Throat = Airway → Breathing → Obstructed Sleep Apnea → Body compensations → Increased heart rate, blood pressure and breathing rate → Heart disease, stroke, and diabetes