



What Does Sherlock Holmes and Your Dentist Have in Common?

By Dr. DeWitt C. Wilkerson

Sherlock Holmes is a fictional private detective created by British author Sir Arthur Conan Doyle. Referring to himself as a “consulting detective” in the stories, Holmes is known for his proficiency with observation, forensic science and logical reasoning that borders on the fantastic, which he employs when investigating cases. Sherlock’s job description sounds very much like that of an astute, modern-day dentist. A consulting detective, who uses keen observation, forensics and logic to investigate cases that involve problems of pain, inflammation, swelling, structural defects, smile concerns, medicine, engineering, art and whole-body health. Knowing all that borders on the fantastic — and there’s even more being understood every day!

It’s been said that, “the mouth is the window to the whole body.” The mouth reveals many clues to our overall health. Let’s discuss some of the things your dentist can determine regarding whole-body health concerns during your routine dental visits.

Gum Inflammation Can Negatively Affect Whole Body Health

Dentists are familiar with inflammation in the mouth. It produces red, swollen gums, which may bleed easily due to chronic irritation and a weakened immune system. The growth of certain bacteria in the mouth produce irritating acids, which can cause gum disease and bone loss around teeth. Bleeding gums and infected teeth can move bacteria from the mouth into the bloodstream, causing body-wide inflammation and infection. For example,

oral bacteria have been found in the lining of blood vessels, in the plaque buildup that narrows the arteries. One oral bacteria, *Fusobacterium nucleatum*, has been associated with pregnancy complications, because it may be passed from the mother’s bloodstream to the unborn child. We now understand that **inflammation is the greatest risk for the development of many chronic ailments**. Maintaining a healthy bacterial balance and reducing mouth acidity is a top priority for your regular visits with your dentist and dental hygienist. Professional dental care helps protect your heart and other organs, as well as your teeth!

Diet and Diabetes Can Affect Gum Inflammation

When the body is imbalanced because of inflammation, such as through a poor diet or diabetes, the gums often will swell and

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may bleed easily. A fascinating research project was conducted at the University of Manitoba Dental School. Dental students who had healthy gums with no signs of gum swelling or bleeding were identified. They agreed to eat one gallon of Ben and Jerry’s ice cream every day for a week!

At the end of the week, filled with a diet rich in calories, sugars and fats, every student had swollen gums that bled easily. Unresolved gum swelling and bleeding will prompt your dentist and dental hygienist to be suspicious of high sugar levels in the diet, as well as the potential of chronic high blood sugar levels seen in pre-diabetic and diabetic conditions.

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Today, more and more of the older generation are keeping their teeth for a lifetime. When an 80-year-old has healthy gums and teeth, we know for certain that they have excellent home dental care and eat a diet low in sugars and refined carbohydrates, like candy and most snack foods.

Breathing Problems and Stomach Acid Can Cause Significant Wear on Teeth

Dentists observe two different kinds of wear on teeth:

1. Wear on the edges of teeth (abrasion) — from rubbing teeth together, grinding and clenching.

This type of wear will cause the front teeth to become rough on the edges and shorter over time. This often is a sign of a breathing and airway problem. When breathing is compromised through chronic allergies, nasal obstruction, swollen tonsils and adenoids, the body will compensate to assure adequate airflow into the lungs. Both during the day and when sleeping, stress hormones may be released in the bloodstream to increase the heart rate and increase oxygen delivery to every cell in the body. There also may be an increased stress in the jaw muscles. Clenching and grinding back and forth (bruxism) may help open the airway in the back of the throat. If the teeth are in the way, they will be damaged. This is common in people suffering from obstructive sleep apnea.

Other causes of clenching and grinding teeth include:

- ❖ **poor bite**, which can stimulate abnormal muscle activity.
- ❖ **neurologic problems**, like Parkinson's Bruxism.
- ❖ **medications**, such as certain antipsychotics, antidepressants and amphetamines.

2. Smooth wear on the top and sides of teeth (biocorrosion, erosion) — from acidity due to stomach acids.

When acids come up into the mouth from the stomach, they can dissolve both the top and side surfaces of the tooth structure. These stomach acids also can cause post nasal drip, chronic sore throat, chronic coughing, heartburn, asthma-like symptoms, indigestion, Barrett's Esophagus and possibly esophageal cancer.

There are several medical reasons for this to occur, including:

- ❖ **hiatal hernia** — causes a poor seal at the top of the stomach
- ❖ **obstructive sleep apnea** — causes a negative pressure due to frequent breathing efforts without success, producing a negative pressure in the abdomen, in which stomach acids are pulled up, like through a straw
- ❖ **acidic western diet** — low pH colas, carbonated drinks, sports drinks, canned foods and processed foods all stimulate the activity of a stomach digestive enzyme, pepsin, to irritate the walls of the esophagus, airway, nasal sinuses and mouth

We have described just a few of the clues revealed in the mouth for the investigative dentist doing his/her consulting detective work during every routine dental visit. This fantastic service is invaluable to all of us who understand the importance of the mouth as the window into whole-body health and wellness.

So, you see, Sherlock Holmes and your dentist do have a lot in common — they are both brilliant diagnostic superstars!

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OFF THE CUSP
JOHN PAUL, DMD, EDITOR

Will Have Soon