

## **Gut Healthy Chairside Conversations**

By Uche Odiatu DMD & Mahsa Bakhshandeh RDH

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Want to add some variety to your chairside conversations? Want to share cutting edge scientific findings with your patients? Would you like to be seen as a person of influence with a broad knowledge of nutrition and healthy living strategies? “Some patients still see us (Mahsa Bakhshandeh reports) hygienists as teeth cleaners and aren’t aware of the scope of our education which includes an intense nutrition component.”

**Caution this article contains foundational strategies to support oral health & TOTAL patient health.**

***“All disease begins in the gut”  
– Hippocrates 300BC***

How did the first physician who the Hippocratic oath is named after have such insight into what has only been recently scientifically uncovered? He didn't have a microscope or access to the National Institute of Health's ground breaking initial Human Microbiome Project findings but he proclaimed "Let food be your medicine and medicine be your food"

## **KEY GUT PLAYERS**

Mind your guts. Not the outer abdominals but the gut flora on the inside of your belly. You see we live in harmony with over 100 trillion single celled bacteria. 80% of them live in your digestive tract (1) and a recent ground breaking article in Scientific American reported their influence on our health is shaking the very foundation of medicine and nutrition (2). The bacteria in your gut play an important role in immune system modulation. Three quarters of the cellular constituents of your whole immune system are located in this area (3). If you want to build the strongest foundation for your immune system you need to do these things to keep your gut flora in good shape: a) eat 25 to 30 grams of fiber each day. (The average North American consumes half that amount). Fiber is the gut bacteria's number one choice of nutrition on which all other interactions depend reported Justin Sonnenburg PhD assistant professor in the department of microbiology and immunology at the Stanford University School of Medicine

***"The human microbiome is only recently thought to***

***influence health as powerful as your genes,”`-SK  
Mazemanian PhD professor of microbiology California  
Institute of Technology.***

What is the number one influence on the human microbiome? What we eat proclaims gastroenterologist Robynne Chutkan MD. “The food we eat dictates what bacteria grow in our body. And our Human Microbiome is predominantly (99%) made up beneficial bacteria.” (4)

What does this have to do with dental patients? Why should we talk food and gut health in its relationship to oral health and overall health? Because the gut flora, our microbiome our gut garden play a major role in our immune system health, nutrient absorption, energy levels, emotional well-being.

*“Our gut microbiome guides our immune system,  
metabolism & even our mood and behaviour”  
~ J. Sonnenburg PhD microbiologist Stanford University  
School of Medicine (5)*

Now you know why food is so important. Our single celled passengers have an intimate relationship with them. Their very survival depends on a regular supply of healthy food. And which health care industry professionals are in charge of the eating apparatus? Is it the chiropractor? Is it the optometrist? The cardiologist? The physiotherapist? No. It is the dental professional - the dental hygienist, the dentist and the dental assistant. We are the care givers of the teeth, the jaw, the muscles of mastication. If people want to be

able to break down food and digest it and absorb it (6000 of our enzymes have bacterial origin) (6), they need optimal masticatory function. Eating and digesting and absorption of nutrients is one of the most intimate things we do with our environment. MIC DROP

Questions from patients are a good opportunity to share our total health knowledge about the body mouth connection. It will also feel less like we are lecturing patients as they will have invited us to share once they have made an inquiry. And our answers can go beyond the usual: apples and cheese are healthy snacks and avoid juice and pop. And

### **What else can I do between hygiene visits to keep my gums healthy?**

In the days following a dental hygiene appointment – especially if it is a patient that has not been in for regular hygiene their soft tissues may feel tender for 24 hours or more after. For adequate healing their immune systems need to be in optimal health. We get calls sometimes from patients and they might ask “why were my gums tender after the last cleaning?” We can respond...healing depends on the ability of your immune system to do its job in the healing and repair process. An impeccable diet provides you with the building blocks for healing. Did you know that only 5% of the population eats the recommended 25g of fiber daily? (7). Our gut flora needs a regular intake of fiber – this is a keystone foundational relationship – this is where our gut bacteria make SHORT CHAIN FATTY ACIDS. Bob Hutkins PhD food scientist U of Nebraska claims these are some of

the body's most powerful anti-inflammatory agents. Ian Chapple stated most of the destruction of periodontal structures were from the host and dental professionals need to include host factors when they are creating their treatment plans (8). 97% of the population does not eat the recommended amount of fiber. Without this keystone nutrients for the gut flora there will be a poor supply of SCFA's. And the body cannot put out the fires of inflammation burning in the bodies of our patients. Roller coaster elevations in blood sugar from poor eating habits promote postmeal dysmetabolism which support inflammation and disease (9). Chronic inflammation which scientists now report to be a major player in most modern degenerative diseases.

### **Isn't once a year hygiene visit enough?**

60% of the population reports not getting sufficient sleep to feel rested each night. This raises the red flag "poor sleepers are poor healers"(10). 70% of the adult population don't eat a single piece of fruit each day (7). Red flag: less phytonutrients, fiber and antioxidants to help douse the flames of inflammation. Only 5% of the population exercises regularly (11). Red flag waving: 95% of patients don't enjoy the anti-inflammatory benefits of exercise. Anyone who doesn't have healthy lifestyle habits need to think about increasing their hygiene frequency to lower their inflammatory burden.

**I am at a loss, my gums seem to bleed and be tender no matter what I do?**

Dental hygienists scale, we root plane, we debride, we floss...all these procedures need our patients to have a high functioning immune system to recover and heal after our treatments. Seventy percent of our immune system is located in our GI tract. Our gut flora influences our immune cells. They do this through the TREG cells. This communication can only work well if the gut bacteria are stable and diverse in variety. This communication is facilitated if they haven't been recently decimated by a recent course of antibiotics. Antibiotics have been shown to disrupt a third of a person's good bacteria and it can take up to a year to bounce back (12).

**My mouth has gotten drier over the last year. Should I be worried?**

Well Epidemiologist Tim Spector PhD who studied 15,000 twins over ten years said there are many reasons for the human body deteriorating. A number of aging theories exist. He listed the loss of muscle, changing social circumstances but also affirmed the loss of dental integrity and lower amounts of saliva (6). This epidemiologist reported that all other factors accounted for, nutrition and diet stood out as the major factor in influencing the microbiome and its impact on the senior's health. How many times have you heard from patients as they sit down slowly in the chair, "Getting old is not for sissies" or "The golden years aren't so golden." By focusing on the importance of maintaining all their teeth acknowledging the the side effects of medicines that cause dry mouth we can be their health champion. We can encourage them to preserve arch integrity and replacing

missing teeth, stay hydrated and help them choose OTC products to keep their mouths moist.

## **SUMMARY TIPS:**

### **1. Eat free range hormone free meat**

Eating hormone free, free range antibiotic free meat used to be a very expensive food choice. Gastroenterologist Emaran Mayer MD reports that it is rather now seen as a good investment in our overall health and in particular our gut health. Antibiotics fed to animals as animal growth enhancers have the ability to disrupt our delicate gut flora.

### **2. Exercise regularly**

Regular exercise makes your gut bacteria more diverse in their make-up. This adds to the stability and potency and most of all.....keeps pathogens in balance (13).

### **3. Manage stress**

Unmanaged stress also decreases diversity in your gut flora and therefor hampers fabrication of the cellular constituents of your immune system. Poorly managed stress or life events that not only rock us emotionally can thin the mucus lining of our patients stomachs and bring pathogenic bacteria in closer proximity to the general circulation (14)

### **4. Limit sanitizing and being hyper clean at home**

Limit your use of hand sanitizers outside the operatroy. Robynne Chutkan MD author of The Microbiome Solution wrote that part of developing a balanced gut flora means having them less disrupted by our patient's extreme sanitization practices at home

### **5. Eat more fruits and vegetables**

There is irrefutable scientific evidence that food and its macro and micronutrients can ramp up or dial down inflammation in the body. Vegetables and fruits are loaded with phytonutrients, antioxidants, polyphenols and most of all fiber – which our gut flora need to make SCFA's – one of the body's most important anti-inflammatory agents. Health Canada's brand New Food Guide makes it perfectly clear – half the plate ought to be fruit and vegetables to enjoy optimal health (16).

### **6. Get good sleep**

When you're awake your body's repair / recover /rebuild system is running on standby mode. It is only while you're sleeping that your body launches its powerful offensive where close to 95% of resources are poured into regeneration mode. Without adequate sleep opportunistic gut bacteria can get the upper hand and cause disruption (15). We encourage patients to reevaluate their sleep habits to ensure they are getting adequate quality and quantity for optimal GI function.

### **7. Take a good probiotic**

Probiotics are good bacteria and can be found in cheese, yogurt, kefir, sauerkraut, miso soup and assorted vegetables. If consumed regularly they will support optimal gut health and the fortification of an empowered immune system. How about probiotic supplements? Great question, everyone seems to be interested in this popular supplement. There's sound scientific evidence for the value of probiotics helping prevent antibiotic associated diarrhea. It is a developing science and many different companies are vying for top of mind in the consumer. For every day use? In a

placebo controlled, double blind, random assigned study in the Journal of Strength and Conditioning Research January 2017 (17). It looked at thirty hard driving athletes and it showed that probiotic supplementation would help rebuild the first line defense or humoral immune system that gets beaten up from intense training in the winter months. The athletes who took the probiotic had less respiratory illnesses. The authors went on to say the findings could make a case for the consumption by immunocompromised populations (the very young and the very old) who tend to get sick each winter. There are different formulations and numerous brands available in high-end health food stores, grocery stores and pharmacies. We prefer room temperature stable varieties with multiple strains that are easy to swallow.

#### SUMMARY STATEMENT:

Patients enjoy and welcome their dental professionals emphasizing total health along with focused attention on oral health. Talking nutrition that is relevant to oral health and overall health is within our scope of practice and lastly....our patients are hungry for it.

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