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Editorial
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Are you using too many chemicals in your dental practice?

Alexander Bischoff

In this new column focused on the team approach to infection control, we look at the benefits of microbiology.

Change is one of life's few certainties. As I pen this article, reflecting on my recent Thanksgiving excesses, I am intensely aware that Christmas, New Year's Eve and most of our New Year's resolutions will be history by the time you read this.

I do hope that its relevance will not also have flown away?

There are 46,000 dental products (excluding any special order items) according to the Henry Schein product catalog, and they seem to change even faster than our "vaporous" efforts each January. So it is easy to understand why a dental practice might give serious attention to the purchase of a new imaging system, yet have little time to evaluate the plethora of sundry products offered for "cleaning" each day.

Science can be a catalyst for change. I hope this new column, centered around a team approach to infection control in the dental practice, will introduce and stimulate a healthy discussion on the opportunity microbiology (good bugs) introduces as an alternative to chemicals for killing unwanted bacteria.

Cleaning choices affect patients

In our own bathrooms, where any "lesser cleaning" approach (slow drains or dirty surfaces) is more likely to be annoying than harmful, we get to decide on our level of cleaning slippage. But, this is not acceptable in a dental office where cleaning and hygiene are the only antidote to patient infection.

It may be OK for us to avoid a particular chemical, or save time and cost by "skipping" a particular cleaning protocol, but we are responsible for how this decision might affect our patients' well-being. The choice of an apparently trivial product or protocol could have life determining implications for everyone concerned.

My reps who introduce Bio-Pure to practices often hear worrying comments like, "We do not clean the evacuation system daily," or "We clean the lines with warm water each week," or "We know we have poor suction."

I certainly like to be 100% certain of strong suction, clean lines and that nothing might flow "at" me should I close my mouth on the saliva ejector. Compared to Europe, we have remarkably little legislation regarding back flow protection.

Chemicals create new issues

For the past 30 years, chemicals, and more chemicals, and then more and stronger/enzymatically boosted chemicals have been the de-facto solution for surface, water line, and evacuation system cleaning.

[Read: How Bio-Pure, a simple system cleaner, can save your practice money]

Speaking to two of the thought leaders in dental hygiene, Noel Kelsch and Nancy Andrews, at a recent meeting of dental hygienists, I was most impressed by their new thinking on "good" bacteria. Healthy biofilm requires bacteria, while trying to kill all bacteria is proving responsible for the mutation of the new "super bugs" we hear about.

All of this is of importance to the dental industry, particularly as we learn more about the mouth and its role as the "architect" of the body's immune system.

About microbiology

As long as humans can't live without carbon, nitrogen, protection from disease and the ability to fully digest their food, they can't live without bacteria, said Anne Maczulak, a microbiologist and author of the book "Allies and Enemies: How the World Depends on Bacteria" (FT Press, 2010).

On our skin surface, a forest of bacteria (almost 200 separate species on a normal person, according to researchers at New York University) dominate the skin and its resources, keeping other bacteria from being able to establish a foothold, according to Maczulak's book.

Many areas of health have recognized that "bad" bacteria can be controlled by the targeted use of "good" bacteria. This is an area known as probiotics when applied to digestion, and developing

FIGURE 1 - Debris inside suction line builds over time.

FIGURE 2 - Debris inside suction pipe after Bio-Pure Microbial Cleaning.

FIGURE 3 - Sludge, bacteria and debris in operatory trap.

FIGURE 4 - Operatory trap after Bio-Pure Microbial Cleaning.

FIGURE 5 - Suction filter (before).

FIGURE 6 - Suction filter (after).

"healthy" biofilms when used by dental hygienists.

This is not the forum for a detailed scientific explanation of microbiology. What we can know for certain is that "bug wars," the science of using healthy bacteria to combat disease, is emerging as an attractive alternative to chemicals or sterilization, the science of killing all bacteria, for effective infection control.

Microbial cleaning discussion

Over the next 12 months, we will examine three areas of microbial cleaning in this column.

First, the microbial cleaning of systems that lead away from the patient (e.g. evacuation); Second, the microbial cleaning of systems that indirectly contact the patient (e.g. surfaces); Third, the microbial cleaning of things (e.g. instruments) that directly contact the patient.

New products based on microbial science are going to require significantly more stringent testing and legislative approval. Particularly, should they address cleaning equipment that comes into direct contact with a patient? It is one thing to have "good bugs" reduce the probability of e-coli or some other nasty in the drain. It is quite another to depend on microbiology to ensure bacteria-free water is delivered from a water line into a patient's mouth.

Why it matters

The ever-increasing use of progressively more toxic chemicals for effective infection control is not sustainable. Even if we ignore the cost savings microbial solutions typically offer, and we ignore the potential of creating chemically induced super bugs, and we ignore the increased efficacy these new products bring to patient infection control, maybe we will start by paying attention to ourselves.

We are at risk of systematically poisoning our environment as we pour these chemicals down the drains. And I fear for the lungs of the junior team members, who are the ones most often tasked with end of day cleaning. Please do not be deceived! If it smells nice, it does not mean that it is nice!

The MSDS sheets for all cleaning products are easily accessible online. I know they are hardly the most exciting reading, but protecting yourself from the chemicals they disclose makes them a "hot read" in my book!

Alexander (Alex) Bischoff is Executive VP of Sales and Marketing at Bio-Pure. Bischoff's responsibilities as EVP of Sales and Marketing include product sales, training the dealer network, and educating the dental industry about the potential of microbial cleaning.

Dental Products Report welcomes this original article.