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1. Damaging even when dead: Bacteria from periodontal disease have one more card to play?

Dead is dead, right? Well, maybe not, results from a recent study that indicates the periodontal disease battle is far from over even when bacterial death is imminent. The more we learn about the bacteria in the mouth, the more we realize that they are very clever little devils. So much effort has gone into a wide variety of strategies to kill the bacteria that cause periodontal disease and understanding the inflammatory response with the thought that dead is dead and the tissue-damaging properties of the periodontal pathogens is done and over with. A piece of research from 2017 says, Not so fast. We're not done with you yet. The objective of this study was to determine if periodontal pathogen-induced death of the macrophages that ingest the bugs causes the release of molecules that participate in the pathogenesis and progression of periodontitis—EVEN IN DEATH. In the study, macrophages were inoculated with three specific bacteria: *Treponema denticola*, *Porphyromonas gingivalis*, and *Tannerella forsythia*. Upon the demise of the bacteria-stimulated macrophages, a variety of danger signals—including ATP, uric acid, and heat shock protein 60, among others—were released by the dead macrophages. The conclusion of the study stated: “Inflammatory cell death and endogenous danger molecules released from cells infected with periodontopathogens may play critical roles in the pathogenesis and progression of periodontitis by augmenting immune and inflammatory responses.” So, there you have it. It appears as if the macrophages fulfill their destiny of phagocytizing the offending bacteria, but when they die, the bacteria that they ingested cause the release of molecules that boost the inflammatory response and participate in the development and progression of periodontitis. This is another classic way in which the bacteria overtake our bodily defenses for their benefit. Even when bacterial death is imminent, they still have a card to play.

One study obviously does not establish a conclusion as fact. But, if affirmed by other studies in the future, this observation would add to our knowledge of how truly complex periodontal disease is.

2. Google AdWords for dentists - Google AdWords provides a powerful tool for dental practices looking to attract new patients. Google runs the biggest search engine in the world, and AdWords can drive a huge volume of traffic to a dental website. Visitors will land on your site at the exact time they are interested in the dental services you offer.

In an AdWords promotion, you bid on keyword phrases and only pay when a patient clicks on your advertisement and is directed to your website. Results from an AdWords campaign can be instantaneous. If you have the resources to outbid the competition, your ads will immediately appear in top positions in Google search results. According to the Search Engine Marketing Professional Organization (SEMPO), the authoritative non-profit educational resource on search engine marketing (SEM), AdWords is so effective because it delivers the specific information that a person is searching for at their "moment of need."

Google AdWords plays a major role in the success of thousands of small- and medium-sized enterprises like dental offices. Key benefits of the system include:

- **Speed**—SEO (search engine optimization) can take weeks or months to become productive. AdWords produces immediate results.
- **Customization**—AdWords enables you to tailor your promotion to fit the particular needs of your dental practice.
- **Targeting**—AdWords engages with potential patients at the exact time they are in the frame of mind to join your practice as a new patient.
- **Measurability**—With AdWords tools, you can gauge how well your promotion is performing. This allows you to make adjustments to fix any glitches.

However, AdWords can be a difficult system to master for the uninitiated, and if your campaign isn't effectively optimized, you'll pay a lot more than necessary in cost-per-click (CPC) fees. Without some

experience in pay-per-click (PPC) advertising with AdWords, you can end up throwing away money as opposed to seeing a sound return on your dental paid-search investment. So, here we'll look at some strategies for a strong AdWords campaign.

Finding the right keywords is vital

Keyword selection is critical with AdWords if you want to see your dental practice at the top of Google search engine results pages (SERPs). Choosing keywords appropriate for your practice may seem a simple matter, but failure to get it right can prove costly.

A successful AdWords campaign calls for extensive keyword investigation to produce a marketing plan that will keep your cost-per-click fees to a minimum while ensuring high visibility among your potential new patients. The best AdWords strategy will strike a balance between high-volume keywords and less costly, low-volume keywords to achieve optimum return on investment.

You want keywords that help you to stand out from the crowd while not being so obscure to the extent that few people are likely search for the term. For example, if your practice is based in Austin, Texas, and offers services for people suffering with sleep apnea, using a keyword term like "oral sleep appliances in Austin" will reach a bigger audience than "mandibular advancement devices in Austin." You can see for yourself by typing these terms into Google and comparing the number of results the search engine returns for each phrase.

When getting started with AdWords, it's important to bear in mind that while there are keywords you want to use, there are also those you don't. These are known as negative keywords. Setting the right negative keywords for your AdWords promotion can save you money by avoiding getting clicks on your ad from people not interested in your dental services. For instance, if you are an orthodontist you don't want to show up for a Google search for "Ankle Braces", so in this instance your negative keyword would be "ankle."

Longer, individualized keywords get fewer hits than short keywords but target your prospective patients more effectively. Generally, there's also less bidding on **long-tail keywords**, so they're less expensive.

The **Google AdWords' Keyword Planner** is a handy tool for generating keyword ideas, determining those to avoid, and getting a feel for what your competitors are doing.

An AdWords campaign requires ongoing fine-tuning

AdWords can be a cost-effective way of driving traffic to your website because you only pay when someone actually arrives on your site, and you can spend as much or as little as you like.

With AdWords, though, once you've set up your promotion, you can't just sit back and relax. To get the best results, you need to constantly fine-tune the marketing campaign. Maintaining an effective AdWords operation is a complex and time-consuming operation, and this is why many busy dental offices turn to **professional dental AdWords management agencies**.

AdWords options

Google AdWords offers four platforms:

- **Search ads**—Your ads are shown prominently when potential patients are searching for the type of dental services you provide.
- **Display ads**—You can connect with a wider audience by featuring on the web and in apps on different devices.
- **App ads**—Your app is promoted to Android and Apple iOS mobile-device users.
- **Video ads**—These are displayed only to people interested in what your dental office has to offer.

One potential pitfall when getting started with Google AdWords is the temptation to go for a default ad with AdWords Express. This version is designed for local businesses like dental offices and ostensibly offers a quick

and easy solution. However, you won't be able to customize your ad precisely to target the prospective patients you want to reach.

Many AdWords specialists believe that Google **Search Ads** is the best platform for small businesses like dental offices to get top value from search engine marketing, particularly if it's linked with organic search engine optimization. To reach a broader audience, Search Ads can be opted in to the Google **Display Ads** network. This tactic connects you with people as they use Google's search engine and then visit different sites across the web. The process works mainly by presenting your ads on the Search system, and then showing them on the Display network if your remaining budget is sufficient.

Maximizing an AdWords promotion

The effectiveness of an AdWords campaign can be maximized by combining other search marketing techniques, including off-page and on-page optimization of your website. This will improve your **AdWords Quality Score** and **Ad Rank**, which helps you to get better cost-per-click exposure.

You also need to consider the website content where your ad leads. If your site contains quality material appropriate for the search term, Google will rank your ads above those of your AdWords rivals with content that's poor quality.

Take these tips and discover how Google AdWords can be a powerful tool for acquiring new patients and marketing your dental services!

3. Vaping: the new gateway drug and what dental professionals can do. We humans tend to stubbornly believe that the absence of evidence of harm must equal evidence of safety. We decide that new, novel products that seem safe and effective in the short term must, therefore, be so in the long term, before the jury is actually in. For the past 15 years, that's exactly what we've been thinking about vaping.

"Hey, at least it's not smoking," insist former smokers who have used vaping to quit tobacco. To some degree, they're correct, based on what we know about long-term use of tobacco-based cigarettes. But what if these former smokers keep on vaping, long after they've quit cigarettes? Well, that's when things get interesting. There is still a lot we don't know about vaping. As we've seen, we can't conclude that something is safe just because we haven't yet discovered the ways in which it might be unsafe. Once again, a lack of evidence isn't evidence at all.

Vaping e-liquids are not regulated. We don't actually know what's in most of them. Different formulations contain all sorts of compounds, among them varying levels of metals, propylene glycol (antifreeze), and diacetyl, which can cause an irreversible condition called popcorn lung.

When it comes to vaping, it's not that the jury is still out—the jury honestly hasn't even convened yet. We simply don't know what we don't know about inhaling these substances over a sustained period of time. It could be perfectly safe. On the other hand, in 25 years, today's vapers could very well be dealing with all sorts of respiratory issues. We just don't know.

In science and medicine, we must go where the evidence leads us. When we don't yet have the evidence, that means that sometimes we have to wait for it to catch up. With vaping, it's taken 15 years to get the first large batch of peer-reviewed observational and clinical evidence.

Here's what it's telling us.

While a great deal of the evidence does support arguments in favor of vaping for harm reduction in older, active, long-time smokers who are trying to wean off tobacco products, it's definitely not all strawberry, vanilla, or cotton candy flavored vape clouds.

Of the 600 pages in the most comprehensive report about vaping so far, published by The National Academies of Sciences, Engineering and Medicine, there were two undisputed conclusions.

Teens whose first exposure to nicotine is vaping may be more likely to start using real tobacco. "For kids who initiate on e-cigarettes, there's a great chance of intensive use of cigarettes," according to Mitch Zeller, head of the FDA's tobacco division, as quoted in the *New York Times*. In other words, for young people who don't already smoke, vaping is the opposite of harm reduction; it's a gateway to harm.

E-liquids generally still deliver nicotine, and nicotine has the same effects on the body no matter what the delivery route. In terms of oral health, this means potentially compromised oral mucosa. Reduced blood flow due to nicotine's vasoconstrictive effects mean less oxygen, fewer nutrients, and decreased regenerative capacity in the gingiva. In addition, vaping can mask symptoms of periodontal disease in patients because reduced blood flow can cause decreased symptoms, specifically bleeding. Without that telltale sign, regular oral exams and cleanings may not catch early disease without proactive monitoring of pocket depth. As ironic as it may seem, patients who smoke cigarettes, with their telltale stains and other symptoms, may stand a better chance of early diagnosis of periodontal disease than patients who vape.

So, what's a diligent dental assistant to do when it comes to vaping and oral-systemic health risks? Discuss it with your patients, just as you discuss smoking cessation. Ask questions. Share your knowledge. Talk about other products people used thinking they were safe that were later found not to be safe. Perhaps skip the radium story, but you could emphasize how much we don't yet know about the long-term effects of vaping.

Remember that not all patients who vape are vaping nicotine. Since vape pens are refillable and e-liquid is not regulated, patients who vape may be vaping all sorts of substances, including cannabis and illicit drugs. Make sure you and your team are extra diligent in screening for signs of periodontal disease that might not be apparent in patients who vape.

4. Human trafficking and dental professionals

So, you're probably wondering, "What does this have to do with dental practices?" To begin, there is a professional and legal obligation for dental professionals to **be aware of any signs related to abuse in their patients**. According to the American Dental Association Principles of Ethics and Code of Professional Conduct, the dentist is "obliged to become **familiar with the signs of abuse and neglect** and to report suspected cases to the proper authorities consistent with state laws." Such a professional responsibility becomes paramount when one considers that an estimated 26% of individuals subjected to human trafficking are minors. Therefore, dental professionals are required to report suspected abuse in their roles as mandatory reporters.

Additionally, should the dental professional have an adult patient someone suspects could be the victim of human trafficking, it is beneficial to the patient that his or her chart contain a record of any suspicious injuries. Such a record could be subpoenaed by the patient should the person want to press charges against the captor. The detailed documentation of suspected physical signs of abuse and neglect could serve as an invaluable resource for the patient and prosecution.

Dental professionals should look for and document the following indicators of human trafficking should they present in patients:

- They're not in control of their own IDs or insurance cards.
- They're not allowed or able to speak for themselves. A third party insists on being present and translating.
- They claim to be visiting a friend or relative and they're unable to clarify where they're staying.
- They do not know what city they're in.
- They're unsure what day, month, or year it is.
- They have numerous inconsistencies in their stories.
- They appear malnourished.
- They show signs of physical or sexual abuse, physical restraint, confinement, or torture.

According to one recent report, an estimated 28% of victims of human trafficking have come into contact with a health-care provider while being held captive. This report mentions that in such cases, health-care providers seem to have missed the critical signs that indicate captivity and thus did not intervene. Couple this with the suspected number of human trafficking individuals and it becomes very likely that dental professionals will see patients who are being trafficked.

The entire dental team should be aware of the signs associated with human trafficking. Dental assistants and hygienists often have regular contact with patients, perhaps even more so than a general practitioner. Dental assistants are particularly well positioned to notice patterns of suspected abuse and neglect because they're typically involved with the care of patients over the course of time and in a consistent manner. As a constant presence during the course of care, dental assistants have the valuable opportunity to establish and maintain trust with patients, and this trust fosters the patient's likelihood to disclose any abuse and neglect.

Dental practices should develop a strategy for managing suspected cases of human trafficking to include methods for asking appropriate standard questions should abuse and neglect be suspected. These can include, “Do you have the ability to change jobs if you want to?” “Has anyone ever forced you to engage in work you did not want to do?” and “Do you feel safe at home and in your personal relationships?”

Dental teams should be aware of the physical and psychological impacts associated with abuse that could impact how they deliver care. Such patients may experience post-traumatic stress disorder, anxiety, and depression. These symptoms can impact the provision of care from how patients prefer to be positioned in the chair, how they feel about items placed in their mouth, or if they perceive a feeling of being out of control during treatment. Therefore, it is essential to communicate with them throughout the appointment in order to determine how to deliver care so that they’re comfortable and feel a sense of personal control.

Dental practices should have protocols for mandatory reporting, and these should be created in conjunction with state laws. It is also advised that dental practices contact local law enforcement for guidance regarding how to report suspected cases of human trafficking. State dental boards may serve as resources as more acknowledge the important role dental professionals play in assisting victims and survivors of human trafficking.

Offices should try to employ strategies that ensure patients can be seen alone in the operatory without their possible captor. This allows them the opportunity to speak freely. Dental practices should keep brochures about helpful agencies easily accessible to patients, as well as information regarding their rights under US law.

Information should be kept in private areas, such as the operatory and restroom, as well as public areas, such as patient waiting rooms. The National Human Trafficking hotline at [(888) 373-7888] can be a good source of information for patients and dental professionals.

It’s important to know that evidence of trafficking might be obvious, but a patient might refuse assistance. This can be from fear but also because someone may not see their relationship with their captor as abnormal, or may even see it as providing security. Dental health-care professionals can make a difference by being consistent, documenting suspected trafficking activity, being aware of the signs that someone may need assistance, and having a plan if someone approaches them for help.

5. Focused on the consumer: Dental care 2018 outlook - We’ve all heard and experienced that the only constant in life is change. Health care is no exception, and in line with the broader health-care industry, dental care is increasingly changing to better align with consumer needs. Today’s consumers are more engaged and active in their health.

1. Integrated health care will continue to grow

One of the most significant trends I’ve observed recently, and one that shows no signs of slowing down, is the growing popularity of integrated health care. A 2017 Anthem Inc. study of employers found that almost 90% of respondents had adopted or were planning to adopt integrated health care for their employees. Integrated plans, which include dental and other ancillary benefits, give providers a more comprehensive view of a patient’s total health, leading to better and more personalized treatment.

Through these plans, HIPAA-compliant data is shared, which allows a person’s core health-care team to provide the right care at the right time. For example, metoprolol, one of the most common prescription treatments used to control high blood pressure, can have both visual and oral side effects. A dentist whose patient has an integrated plan could easily see if the person was on metoprolol, which gives the dentist the ability to better serve the patient by monitoring for those oral side effects.

2. Adult orthodontia will gain in popularity

Orthodontia is often thought of as a service for children and teens, and historically that’s true. The reality is that we’ve seen adult orthodontia become a mainstay for many dental practices for both cosmetic and clinically necessary reasons. In a 2014 study, the American Association of Orthodontists found that adults made up more than 1.5 million orthodontics patients in the United States, a record high. With this increase in interest comes a corresponding increase in the demand for non-traditional braces such as Invisalign. In response, health plans, such as Anthem’s affiliated health plans, will become more likely to cover this type of care to help consumers access the services they value.

3. Interest in teledentistry will increase

Over recent years, telehealth has been an increasingly popular option for patients seeking convenient, non-emergency medical attention. In 2017, approximately one-third of all non-emergency medical visits, more than 400 million, were conducted via telehealth platforms. While I find that interest in teledentistry among dental care providers still lags behind other medical providers, because telehealth is now practiced throughout the medical community, I think that we will see increased consumer interest in teledentistry as technology advances.

We know that dental care will continue to evolve and keep pace with these trends and meet the needs of engaged consumers in an increasingly connected health-care ecosystem. With dental care providers and plans working together to simplify access to affordable care, we can continue to provide consumers with the care they want and need in 2018 and beyond.

6. New virtual reality platform may aid in patient relaxation during dental procedures

Northpass Immersive has introduced Bella VR, an intuitive virtual reality platform that helps patients reduce pain and anxiety by escaping with virtual experiences. It is the first and only virtual reality platform in the health-care space to use gaze-based navigation.

Weighing in at less than one pound, Bella is compact and lightweight, unlike many other virtual reality headsets and goggles on the market. With no wires and no controller, Bella (which consists of three parts, including a Samsung phone) is simple to strap on and easy to use. Patients can choose from multiple experiences, including a canoe trip, a hot-air balloon ride over New Mexico, a scenic trip at Banff National Park in the Canadian Rockies, and a live quartet concert. Coming soon is Find Fiona, an interactive game where patients search for a bouncing baby elephant who shows up in a variety of fun and playful scenes.

Bella VR offers several firsts for virtual reality in a health-care setting:

- **Gaze-based navigation**—While many virtual reality devices operate via controller, Bella is controlled entirely by the user's gaze. The patient simply looks at the experience they want. No controller because if you hit a wrong button and you can't see the remote, it causes lots of problems and frustrations. .
- **Auto-horizon adjust**—Many virtual reality users complain that they can't use the device while lying down. Bella solves this problem by calibrating and adjusting the unit's horizon to match the patient's current angle. If you are sitting at a 45-degree angle without the auto-horizon adjust, you have to look down to be level in the experience. If you are flat on your back, you'd have to look completely down your body to get the full experience. We wanted patients to be able to relax completely."

It leaves almost zero footprint and can be used in a matter of seconds, without frustration, an important factor in the busy health-care environment.

With a specialized, nonporous coating, Bella is easy to clean. Talked extensively with medical professionals who told us that the padding on the interior of other [virtual reality] platforms is so soft that it is difficult to sanitize. Bella can be cleaned using only a Sani-Wipe and is quickly ready to use again.

Multiple studies have suggested that virtual reality can help patients cope with pain and [anxiety](#) in a wide range of clinical settings. This includes a University of Washington study that found immersive virtual reality is an effective nonpharmacologic pain reduction technique in the pediatric burn population and a University of Hartford study that concluded that virtual reality distraction may be a "useful tool for clinicians who work with a variety of pain problems."

Bella VR is a platform that benefits patients from ages nine to 90. Bella can be used in English, Spanish, and multiple other languages. Subtitles in 15 different languages are currently available.

