Research has demonstrated that dental unit water has levels of contamination beyond the accepted standard for portable (safe) drinking water. Although there are no documented cases of patients or dental team members suffering adverse health effects from exposure to the aerosol from this contaminated water, we know that certain microorganisms, such as Legionella bacteria can be isolated from dental unit water.

Because of the lack of specific cases of illness caused by exposure to dental unit water, it is not surprising that some dental practices have water systems in place. However, some dental practices (and patients) are aware of the issue, however, and many practices have modified their procedures in response to patient questions, media reports and guidelines from various sources.

The U.S. Centers for Disease Control and Prevention (CDC) issued guidelines for infection control in dentistry in 2003 that addressed the dental unit water quality issue. These guidelines are recognized throughout the U.S. and Canada as the standards of care for infection control. In addition, the Canadian Dental Association’s (CDA) Committee on Clinical & Scientific Affairs published similar guidelines in 2006 in its “Infection Prevention and Control in the Dental Office: An opportunity to improve safety and compliance”.

The quality of water delivered from dental units has been a topic of discussion and research for many years. Research has demonstrated that dental unit water has levels of contamination beyond the accepted standard for portable (safe) drinking water. A standard of care has been established for dental unit water quality. Dental professionals have an ethical obligation to meet that standard of care within their practice settings. Following this standard would ensure that the quality of water delivered from dental units is safe for use by patients and dental team members.

The recommendations from the CDA state that the following protocols should be followed:

- Waterline heaters should not be used in a dental unit or dental equipment, as these heaters encourage waterline microorganism growth.
- All waterlines should be purged at the beginning of each workday by flushing the lines thorougly with water for at least 2-3 minutes. This purging should be done with handpieces, air/water syringe tips and ultrasonic tips not attached to the waterlines.
- Handpieces utilizing water coolant should be run for 20-30 seconds after patient care, in order to purge potentially contaminated air and water. A sterilized handpiece can then be attached, following regular clinical procedures based on these two documents.

To ensure the quality of water delivered from dental units is safe for use by patients and dental team members, it is recommended to follow the guidelines set forth by the CDC and CDA. This includes purging the waterlines at the beginning of each workday, and using the correct protocols when using waterline heaters and handpieces.

**Keep it clean**

**QUESTION:** How do I ensure dental unit water quality?

**Research** has demonstrated that dental unit water has levels of contamination beyond the accepted standard for drinking water, making it important for dental professionals to follow the guidelines established by the CDC and CDA to ensure the safety of their patients.

For feedback, requests or to have your course featured please email ce@inprintpublications.com

Mary Govoni, CDA, ADA, RDH, MBA is Mary Govoni is an internationally recognized speaker, author and consultant on clinical efficiency, ergonomics, OSHA & HPPA compliance, infection control and team communication.
Providing safe water from dental units is an ethical and professional responsibility

One of the most commonly utilized systems for water delivery on dental units now is a closed or self-contained water system. This means that the dental unit is not directly connected to the municipal water supply, and a separate water bottle on each unit is filled with tap or distilled water for delivery during dental procedures. Both tap and distilled water contain some levels of microbial contamination—typically at the recommended levels for potable water. <500 colony forming units (cfu)/ml. Over time, however, the cfu’s can increase to levels higher than 500 cfu’s, because the microorganisms begin to colonize in the tubing and the water bottle and multiply. Using distilled water can actually increase cfu’s in dental units, if the facility uses a distiller that is not properly maintained. The distillation process does not produce sterile water, and the chlorine ions that are present in tap water are removed, which increases the potential for growth of microorganisms.

Self-contained water delivery systems must be cleaned and maintained on a regular basis to ensure that the water delivered to the handpieces, air/water syringes, irrigation equipment, and ultrasonic handpieces meets the water quality standard. One of the most efficient means to accomplish this task is to use a complete water delivery system that includes a daily maintenance procedure and an antimicrobial cleaner for periodic use. These products should contain use-level cleaners that have been cleared by a regulatory agency, such as the U.S. Food and Drug Administration (FDA) and/or U.S. EPA, which has a cooperative relationship with the Canadian Department of Health and Welfare.

The products include tablets and liquids which are added to the water each time the bottle is filled. This procedure must be followed by a periodic “cleaning,” which is designed to clean the system and remove microbial contaminants that may be accumulating in the lines. Some dental teams are not aware of the need for this additional cleaning step. To help make this simpler for dental teams to properly maintain their water delivery systems, some manufacturers have introduced products that are designed to provide both the maintenance and cleaning functions.

One example of this type of product is Team Vista™ from Hu-Friedy® (Hu-friedy.com), a kit that contains a liquid concentrate, VistaClear™ which is added each time the water bottle is filled. It is an organic, citrus-based solution that is safe for the environment, non-corrosive of dental units (unlike hydrogen peroxide or bleach), does not affect bond strength of dental materials and helps keep dental waterlining clean. The kit also contains VistaLab™, an effective antimicrobial cleaner that contains chlorine dioxide and is non-corrosive to dental units.

While the continuous use-products like VistaClear™ are effective in controlling waterline contamination, they do not eliminate it altogether. Over time, microbial and other contaminants can build up in the waterlines, thus affecting the water quality and delivery. Using a handpiece indicates an antimicrobial cleaner like VistaLab™ on a regular basis is a critical step in maintaining the integrity of the dental unit water delivery system. The CDC recommends periodic testing of dental unit water as a quality control measure. It is important to evaluate the effectiveness of the maintenance of the water delivery system. There are two types of test kits available through several companies that can assist the dental team in evaluating the quality of the water from exactly the dental units. These companies that provide these test kits include: Procedental (Procedental.com), Milipore Corporation (milipore.com), and Nelson Analytical (nelsonanalytical.com). Easy to use, these kits test for quantities of cfu’s—not for specific microorganisms—but are they are useful in evaluating the effectiveness of the maintenance protocol for the waterlines. Providing quality water from dental units is the ethical and professional responsibility we have to our patients and dental team members. Water quality protocols should be an integral part of every dental facility’s infection prevention protocol.

n increasing number of dentists are looking for practice promotion ideas to help their flagging revenues. The dental market place has become more competitive, and with cash-strapped patients delaying expensive dental treatments, many practices are experiencing a decline in income. Like any other business, effective and consistent marketing is what makes the difference between a highly profitable practice and one that just makes ends meet. With a plethora of different marketing mediums available to us, it’s challenging to know what path to take.

With our world-shifting gears and operating at a faster pace, traditional means of marketing are also reeling under a whirlwind of change. For years, traditional marketing methods such as print, TV and radio have been practiced, and though they are influential and essential, new modes of marketing are changing the way we connect and do business.

The key component of a practice owner is to embed this core value into your practice and truly live and breathe this philosophy.

1. WEBSITE: The Internet has dramatically changed the way we interact and purchase products and services. We literally have instant access to retrieve information with the click of a button. With an average of only three seconds to get a visitor’s attention, an effective practice website is a critical component that is often overlooked. The success of a website depends on its degree of usability. The three fundamental components of a successful site are, simply put: it must be easy to read, navigate, and understand. There are many service providers who can give you a web presence at a reasonable price.

2. SEARCH ENGINE OPTIMIZATION: What is search engine optimization (SEO)? It is the strategy of analyzing and constructing individual web pages, as well as entire sites, so that they can be easily discovered, analyzed, and ranked by any internet search engines. The higher your position in page ranking, the more visible your site will be. This is increasingly important in today’s competitive landscape. Having a top listing for a competitive keyword can increase the traffic to your dental practice’s site and your overall profitability.

Potentially, customer type is a keyword such as “search, box, hit ‘Enter’,” and will immediately find a listing for your practice’s website.

3. RELATIONSHIP BUILDING: Respect is at the heart of building relationships. It is the glue that holds together the functioning of the dental team and their relationships with the patients.

By building up good rapport and relationships with existing patients and the local community you are increasing the chance of good word-of-mouth promotion amongst friends, colleagues and relations. The key component is as a practice owner is to embed this core value into your practice and truly live and breathe this philosophy.

4. NEWSLETTER: Newsletters can be a powerful marketing tool. They enable practices to solidify relationships with existing patients and also nurture prospective clients. They can position the dentist as an expert and help keep you up to date on extra services you provide.

Most practices already have a database of names and contact information for existing patients, therefore why not take it one step further and obtain their email addresses? With great email marketing programs available you can distribute newsletters painlessly.

5. PATIENT FEEDBACK: “This may seem simple, but you need to give customers what they want, not what you think they need.” And, if you do this, people will keep coming back.” — John Farman.

It is vital to bring the voice of your patients into your practice. Knowing their opinions are being acknowledged and being listened to can be invaluable. Ask your patients for regular feedback, that way you’ll be able to build on the things that you are doing well, and you’ll also be able to fix the things you need to improve.

6. SOCIAL MEDIA MARKETING: Many dentists are engaging social media, by creating pages on Facebook, Youtube, Twitter and LinkedIn. These platforms allow dentists to step out of a static framework and become more “virtually” engaging at no cost. Dentists can easily share their knowledge and become a real person, not just a name and a logo.

Social media marketing is the new mantra. It is a powerful tool to connect with 60% of the population—not all of whom are teenagers either! For example, one of the fastest growing demographic groups is of users aged 55—65. Social media viewership is a true phenomenon that encompasses people of all ages, races and creeds. In the end, only engage in marketing activities you feel comfortable with and are supported by all your staff members.

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