

Don't Let This Happen to You: Preventable Errors in Dental Practice

by Dr. Jacob Lee



Ransomware

It was a beautiful Tuesday morning. I had just returned from the AAPD Annual Session held over the Memorial Day weekend. I was the first one in my office to get the practice day started. I turned on my computer and tried to log on to my dental management software; however, the program would not open. "That's strange," I thought. After several vain attempts, I then rebooted my computer. Still nothing. I went to check my server, and I gasped. There it was: A ransomware notice! I could feel the blood draining from my face, my heart sank, and I felt a tight knot in the pit of my stomach. I was aware of ransomware. However, until then, I thought such cyberattacks only happened to large corporations and institutions, not to small businesses like mine. I frantically called my dental software company. I can still remember my hand shaking as I held the phone. Thankfully, the patient data was safely encrypted, but alas, the server was now frozen and useless.

We commonly think the server firewall is the first and the best line of defense. This is wrong! Everyone working on the computer network is part of the defense! If you or one of your staff inadvertently clicks on a web link in a phishing email or, God forbid, opens

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a malware attachment, the cyberattack virus gains access. The virus can stay dormant, but can be activated at any time, especially when you have not used the server for several days such as over a long weekend. Subsequently, I found out that several dental colleagues had experienced the same thing. I wondered why I hadn't heard about it. One affected colleague lamented that it's humiliating and not something we boast about to our colleagues. Why am I telling you this? I sincerely hope my pediatric dental family doesn't experience what I went through. We must be proactive in protecting sensitive data by using HHS-approved encryption software, performing automatic data backup, and training all personnel to be security conscious—in short, we are our own human firewalls.

To maintain your cyber defenses, please visit the AAPD Website Safety Section on Cybersecurity and learn more on how best to avoid such attacks.

Dental Unit Waterlines

In the summer of 2016, children aged 2-11 years old suddenly began showing up with facial swellings at a local hospital in Orange County, California. The infectious disease experts were able to culture and identify *Mycobacterium abscessus* as the culprit. An

epidemiologic investigation of this pathogen ensued, leading them to a pediatric dental office in Anaheim, where patients received pulpotomy procedure with ferric sulfate medication. Upon on-site inspection and review by the county health care agency, it was determined that the source of the infection was due to the colonization of *M. abscessus* in the waterlines. *M. abscessus* is a part of rapidly growing, multidrug-resistant, nontuberculous Mycobacteria that are ubiquitous in soil and water. Anecdotal reports theorize that because certain types of Mycobacteria are iron-loving, ferric-sulfate may contribute to the severity of Mycobacteria infections associated with pulpotomy procedures; however, there is insufficient data at this time to conclude that the use of ferric sulfate during a pulpotomy procedure causes or contributes to a Mycobacteria infection. Further investigation is warranted to determine what, if any, role ferric sulfate may play in these infections.

Out of about 500 children who received pulp therapy, 71 children were identified as having odontogenic nontuberculous Mycobacteria; 70 underwent surgical debridement, with 8.5 median days of hospitalization; 45 children lost 1-6 permanent teeth; and 26 children needed multiple surgeries. Twenty-nine children were so severely affected they were treated with Clofazimine, an antibiotic commonly used for treating leprosy. Hundreds

of claims have been made and over 150 lawsuits have been filed against the practice. This shocking outcome eclipses the 2015 outbreak at a dental practice in Atlanta, Georgia, where 24 children were affected. Currently, the CDC is investigating another possible incident that occurred in March of 2022. Few details have been released at this time.

CDC recommends adhering to the EPA regulatory standards for drinkable water (≤ 500 CFU/mL of heterotrophic water bacteria) to maintain high-quality water in dental practices. Recommended implementation methods include purging and flushing,

as well as utilizing modalities, such as self-contained water systems, chemical treatment regimens, in-line water microfilters, and water purifiers. Periodic testing of dental unit water should be used to verify effectiveness.

In 2019, California passed a law that takes stricter measures by prohibiting dentists from using non-sterile water or non-disinfecting methods for irrigation during dental procedures on exposed dental pulp. By ensuring proper irrigation and disinfection during pulp treatment, the law aims to prevent outbreaks like the one in Anaheim. More information on waterline safety can be found in our AAPD Toolkit.

What are the lessons learned here? Thus far, cyberattacks do not appear to be rampant and outbreaks emanating from contaminated waterlines remain rare; however, when they happen, the consequences can be catastrophic! The pediatric dentist, as the team leader, must instill a safety mindset with our personnel, continue to lead a culture of safety, and, most importantly, stay vigilant at all times.

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AAPD's Little Teeth Chat will be adding the Safety Community in the Shared Interest Group (**SIG**) co-chaired by Dr. Charles Czerepak and Dr. Jacob Lee. We would like to partner with you in leading a culture of safety for our patients and for our dental teams. We invite you to join and share your questions, your experiences, and your invaluable insights.

Dr. Jacob Lee serves as the Western District Trustee and as a member of the Safety Committee.



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