The ADSA Ten Minutes Saves a Life! App

As a parent of 4 children and an owner/user of multiple handheld mobile electronic devices (iPad, iPhone, etc), I am undoubtedly no stranger to the ever-growing world of apps. As of the end of the first quarter in 2019, an estimated 2.6 and 2.2 million apps are available for Android and Apple devices, respectively. While there certainly are apps that have made positive impacts on our lives (thank you, iOS Maps), many end up failing to satisfy our expectations, ultimately being relegated to the infinite abyss of the interwebs following deletion from our respective devices. Often, it seems as though many of these small programs, which are typically trumpeted to provide assistance and bring simplicity to facets of our lives, end up having quite the opposite effect, requiring such a level of attention and input that the negative aspects outpace the positives. Case in point is the prototypical diet app in which the user theoretically enters every food and beverage item consumed during the day to better track incoming calories, with the endgame presumably being long-term lifestyle/diet modification. As the vast majority of users have little time or desire to look up and meticulously log every devoured morsel day in and day out, it is easy to see how use of such an app quickly morphs into an exercise in futility.

In a similar fashion, there has been a noted paucity of particularly useful apps specifically designed to aid clinicians during patient care, especially anesthesia-related topics or management of medical emergencies. The potential options become even more scarce when filtering search results for “dental” or “dentistry.” Simply put, aside from several drug reference programs, there are not many useful clinically relevant apps for dental practitioners, including all providers of anesthesia for dentistry. However, substantial progress has finally been made following the release of the *Ten Minutes Saves a Life!* emergency manual application for Android and iOS devices in November 2018.

Originally, the ADSA *Ten Minutes Saves a Life!* campaign was founded on the simple premise that the average response time for an emergency medical services team to respond to a crisis in a dental office was approximates 10 minutes. Therefore, the dental provider ultimately responsible for the patient’s care must be knowledgeable and capable of ensuring the patient’s safety until help arrives. Foundational keys to mounting a successful emergency response in the dental environment include thoroughly understanding and planning

for potential emergencies before they occur as well as ensuring the proper equipment and team response are at the ready. Initially, the campaign focused on the use of high-fidelity simulation sponsored by the ADSA Simulation Course, emphasizing proper management of anesthesia-related complications and targeting primarily intravenous sedation and general anesthesia providers along with their clinical teams. Supporting educational documents, such as visual aids and checklists, were subsequently developed, covering topics from crisis management to emergency drugs and equipment. In 2016, under the new vision of Drs Jason Brady and Andrea Fonner, the campaign underwent a bold change in direction by not only working to develop a comprehensive medical emergency response app that could function as a cognitive aid during crisis management but also electing to incorporate all dental providers regardless of their level of training in sedation and anesthesia.

By using a programing structure capable of altering the instructional guidance based on the dental provider’s level of training (level I, II, or III), the *Ten Minutes Saves a Life!* app has the potential to become the “one-stop shop” emergency response reference for all dental providers, from independent-practicing dental hygienists administering local anesthesia only to oral surgeons and dentist anesthesiologists providing deep sedation and general anesthesia. Upon opening the app, users are prompted to enter key patient demographic information (birth date, weight, etc), which is then used to automatically tailor the suggested drug dosages. An assortment of medical emergencies ranging from minor (eg, syncope) to major (eg, cardiac arrest) are presented in a categorized (respiratory, cardiac, or other) fashion for selection, upon which the user is concisely guided through the treatment algorithms in a logical, stepwise manner. The app content specific to the emergency responses was developed using established algorithms modified as necessary under the guidance of several key experts in anesthesia for dentistry. It must be noted that while the app serves to assist the provider, successful delivery of the actual interventions is still provider dependent, hence the need for continued maintenance of basic airway, basic life support, advanced cardiovascular life support, and pediatric advanced life support skills.

Since its initial release, the app has undergone continued revisions to the emergency responses, reflecting updates to care recommendations as well as comments and suggestions from interested users within the dental community. Several useful features have also been recently added to the app, most notably the local

anesthesia calculator, the drug expiration functionality, and a search feature. The local anesthesia calculator allows users the flexibility to select dosing guidelines from either the drug manufacturer's package insert or the American Academy of Pediatric Dentistry. Personally, I have found the drug expiration feature to be especially helpful, increasing the ease and efficiency with which I monitor drugs in my private practice. Finally, the Appendix feature hosts a number of external links to various professional societies of interest, patient care guidelines, and scientific/clinical content for in-depth review and self-study.

Since its release in late 2018, response to the *Ten Minutes Saves a Life!* app has been overwhelmingly positive, with it being downloaded more than 10,000

times. In addition, the ADSA has fielded significant interest from dental communities across the globe regarding potential translation and use of the app in multiple languages. I strongly encourage all dental providers to download the app and check out its phenomenal features whatever their respective levels of training in sedation or anesthesia. This app clearly has potential to significantly improve not only patient safety but also dental practice preparedness and efficiency in a multitude of ways. Extremely useful programs, such as the *Ten Minutes Saves a Life!* app, are not often found. This one most certainly warrants downloading.

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