



Pain-free practice builder

Every dentist is trying to **save time and build referrals** at their practice. Thanks to the STA™ (Single Tooth Anesthesia), there's a painless way of reaching those goals.

The Single Tooth Anesthesia (STA) promotes better patient care and increases profitability at your practice. Drs. Michael Krochak and Eugene R. Casagrande explain.

Featuring the Wand handpiece (Milestone Scientific Inc.), STA is the latest computer-controlled injection system for administration of local anesthetics.

Painless injections are achievable at times. However, administering a painless injection for all intraoral locations all the time is an unrealistic expectation with a conventional dental syringe.

Using the STA now makes that a realistic possibility. Many clinical studies, articles, and textbook references have

been published on new techniques and injections using the STA.¹⁻⁷

This article will help you complete the paradigm shift to properly incorporate the use of the STA into your practice and show you how it can promote better patient care, efficiency, and profitability.

Reduce the Fear

The foremost part of a shift in thinking must be to admit that dentists actually cause discomfort at times with conventional syringe injections.

An early study with the Wand showed that over 90% of patients

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were at least somewhat bothered by conventional injections. After only a single exposure to an injection delivered by the Wand, the patients’ fear levels decreased by 75-80%. This type of response from patients clearly demonstrated the strong preference for a computer-assisted injection versus a conventional syringe.

Careful attention to technique details must be adhered to in order to realize the many advantages of computer-assisted injections over traditional dental syringe injections. The ergonomic design of the pen-like grasp of the Wand handpiece allows the user significantly improved aim at reaching the target successfully.

The anesthetic solution will dissipate in all directions once injected, so if the needle is closer to the target site, more anesthetic will reach the nerve and less will go into collateral tissues. This advantage will result in the use of less anesthetic and reduce the need for multiple injections, which can be a significant time saver.

The bi-directional rotation technique during insertion of the needle is another change that can be incorporated when one begins to use the STA.⁸ This rotation counteracts the

deflection pattern that occurs with all beveled needles, vastly improving the success rate of locating the target efficiently. This will result in fewer injections and achieve a quicker onset time.

The mandibular block injection is the greatest benefactor of these improved techniques because the target site is furthest away compared to other intraoral injections. Instead of waiting five to 10 minutes for onset of the anesthesia, lip signs of mandibular nerve anesthesia will often occur in one to two minutes after completion of the injection.

Even a simple maxillary posterior infiltration can be more successful because of better ergonomics with the Wand handpiece. The ability to hold the handpiece closer to the needle improves the angulation towards the alveolus. The deflection caused by the musculature of the lips and cheeks, resulting in injection of anesthetic solution into the facial tissues are greatly diminished with the pen grasp of the Wand handpiece.

The most common objection of the STA has been that the injection takes longer. This is true, but the controlled flow rate and pressure/volume ratio are the main reasons that this injection is gentler. The

paradigm shift must take place here in order to realize that the significant saving of time occurs in the onset of a anesthesia, not in the delivery of the solution.

No More Waiting

The bottom line is: “When can we pick up our handpieces to start producing dentistry?” With a maxillary infiltration using the STA, a dentist can typically start drilling within one minute after the injection is complete; with a mandibular block, within two minutes; and with a PDL injection, there is normally no waiting time.

With fewer missed injections, a decreased need for multiple injections, and a quicker onset time, the slight increase in delivery time is more than compensated for.

Let’s think of the amount of time a dentist wastes in re-injecting, giving multiple injections, or interrupting treatment to re-administer anesthesia. Let’s also think of the time spent comforting fearful patients in preparation for injections.

Once these patients experience a decrease in fear due to the STA, you will find yourself producing dentistry only a few minutes into the appointment.



The more advanced specialized injections, such as the Modified PDL2, AMSA9-11 or P-ASA12, can produce a significant saving of time if treatment is planned appropriately. The ability to administer an intraligamentary injection comfortably enables the dentist to create treatment plans that include bilateral mandibular dentistry. This can preclude the need for additional appointments to complete minor restorations on the

opposing side of the mandible.

The restoration of an isolated lesion on one side of the mandible, or the bonding of a crown onto a vital tooth, on the same day as involved treatment on the opposing side saves significant chair time. In many cases, an intraligamentary injection using the STA can negate the need to administer the mandibular block with its collateral numbness to the patient's lip, face, and tongue.

Hitting the target

The STA acts like an apex locator in utilizing an innovative technology called Dynamic Pressure Sensing. It informs the dentist the needle has been placed in the proper injection site to give a successful intraligamentary injection. Using light and sound, the STA also informs the dentist if the needle has moved out of the injection site or if the needle has become blocked.

The use of a single AMSA injection will anesthetize the central incisor to the premolar region. If you are performing veneer preparations or multiple restorative procedures on these teeth, then after about three to four minutes (including administration), you can begin the dental procedure; rather than spending 10-12 minutes per side to administer individual infiltration injections.

Another common scenario is found when a dentist needs to perform multiple composite restorations in the incisors/canine region. Instead of spending 10-12 minutes anesthetizing the incisors and numbing a patient's lips, nose, and face, the dentist can perform a single P-ASA injection to anesthetize four to six teeth within three minutes – without collateral anesthesia.

The use of an AMSA or P-ASA injection, as opposed to multiple single infiltrations, results in a savings of time and material costs. Because these virtually painless injections do not cause the collateral numbing of the facial structures (lips and cheeks), additional appointments for esthetic evaluation may be avoided.

The elimination of the numbing of collateral facial structures creates just as much goodwill from the patient as the painless administration of the anesthetic itself. The most common inquiry from patients, after the operation, has always been: "Doctor, how long will this numbness last?" It would be nice to instead hear: "Doctor, it's unbelievable. I had painless dentistry performed and I can leave your office smiling and speaking normally!"

The ability to avoid this numbing effect indicates that you are sensitive to your patients' needs and desires. Have you ever had a patient cancel an appointment because they could not be numb for a business or social appointment? If we could reassure them we could avoid this compromised state and still accomplish the scheduled dentistry, what would that mean to the day's production?

Even if the clinical situation demands regional anesthesia, utilizing the STA still tells our patients we are doing everything possible to ensure their comfort. It shows you are willing to invest in and learn new technologies to benefit your patients.

Many of us use virtual reality eyewear, neck pillows, aromatherapy, and other distraction or relaxation techniques to maximize our patients' comfort. Shouldn't we first address the most basic cause of discomfort in the dental office?

Since dental injections are universally feared to some degree, isn't the perception that we are addressing this concern showing that we are unique and caring? Any effort to go beyond the norm in achieving patient comfort during dental visits will surely stimulate conversation in the workplace and home to increase potential referrals to our offices.

The STA is a state-of-art device that gives us the opportunity to improve our patients' dental experience in many different ways. The real time savings is significant, and the practice building potential is tremendous.

Why stay satisfied with a 150-year-old technique that is universally disliked by patients when you can offer a technique that both improves the patient's experience and allows for better time management?

Open your mind. Move into 21st century of local anesthesia and allow this paradigm shift to occur so you can provide your patients with the best treatment they deserve. Training is readily available, so allow a win/win situation to improve your patient care, increase productivity, and help your practice grow.



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It's this small...

Yet you can build your entire practice on it!

Research has proven that if your patient experiences an uncomfortable injection followed by a flawless procedure – that they will remember the injection.



When was the last time your dental syringe earned you a patient referral?



The STA™ System