The STA™ System

FREQUENTLY ASKED QUESTIONS

FAQ Guide

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BASIC SET-UP:

Question:
What is the easiest way to learn the different sounds of the STA System while it is in use?

Answer:
The easiest way to learn what the sounds on the unit mean is to use the Training Mode when you are using the STA. To use Training mode depress and hold the "Hold to Train" button for 4 seconds until you hear the STA announce "Training mode On". The STA System will now speak and train you to know what each sound means when using the STA System. Kind of clever don't you think?

Question:
I loaded the anesthetic cartridge into the holder and placed it onto the STA Unit and nothing happened? What should I do?

Answer:
First, check to see that the Auto-Purge LED green light is illuminated below the "Auto/Purge/Retract" label on the front top of the control panel. If the light is not "On" simply depress and release the "Hold to retract" button once and the LED will come on, indicating Auto-purge is now enabled. You will need to remove and re-insert the cartridge holder for the unit to now auto-purge.

The second reason the STA unit may not auto-purge is that you did not fully seat the cartridge into the holder and/or completely rotate the cartridge holder 90 degrees within the cartridge holder socket on the top of the STA unit. Check to see if the cartridge was fully seated into the cartridge holder and check that the holder is fully rotated 90 degrees counter-clockwise to completed Auto-purge.

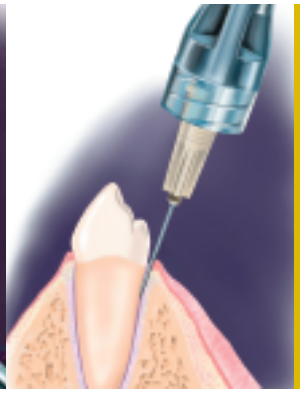
Question:
I placed the anesthetic cartridge into the holder, but it won't fit into the cartridge socket the top of the STA Drive unit? What can I do?

Answer:
The cartridge holder will not properly fit into the top of the STA Drive unit unless the anesthetic cartridge is fully seated into the cartridge holder that is connected to the STA Handpiece.

Solution: Make certain that the cartridge holder spike has fully penetrated to rubber diaphragm on the top of the anesthetic cartridge when inserted into the holder. The base of the cartridge should be flush with the holder before inserted into the STA Drive unit.

Question:
I set-up my STA System, the green LED Power light is on, I have inserted the cartridge holder and the STA Unit has Auto-purged but when I depress the foot control nothing happens?

Answer:
The most likely reason is that the foot control coupling was not tightly secured to the connector on the bottom front of the STA Drive unit. Simply check and re-tighten the white plastic coupling to the foot control connector to ensure it is securely tightened.



"The Most Predictable Intraligamentary Injection you'll ever give"

DR. AL READER

Question:
What is and How do I use the Multi-Cartridge Feature?

Answer:
The Multi-cartridge feature allows you to save anesthetic solution when you use more then one anesthetic cartridge during a single treatment procedure.

Here is how to use the multi-cartridge feature: Determine which mode you need to be in for the injection you are performing. Depress the "Hold to Train" button once until you see the green LED light comes on under the Multi-Cartridge label. Load your anesthetic as usual. The unit will purge the first cartridge and will not auto-purge subsequent cartridges. This will allow you to load additional cartridges for the same injection without withdrawing the needle from the tissue and will save a small amount of anesthetic that would have otherwise purged each time a new cartridge was loaded. Note: You can only turn the Multi-cartridge feature "On" when the STA socket holder is empty.

INJECTION TECHNIQUES:

Question:
Why are the Dynamic Pressure Sensing Technology (DPS) LED lights not coming on consistently while performing the new STA intraligamentary injection?

Answer:
It may be because the needle is not being held in a steady position while the Dynamic Pressure Sensing Technology is determining the needles position within the PDL tissues.

Solution: Once you've placed the needle for the intraligamentary injection, the DPS will require 10 to 15 seconds (without moving the needle) to properly identify the needles position in the PDL tissues.

Question:
Why can't I get the DPS LED lights to go to the GREEN ZONE for the intraligamentary injection?

Answer:
Make sure the needle is being held in a steady position to allow the DPS adequate time to determine the needles position within the tissue. If the problem is that the LED lights are only part way up that scale, then the solution is to advance that needle slightly, hold the needle steady again to determine if you've achieved a more optimal position with the PDL space.

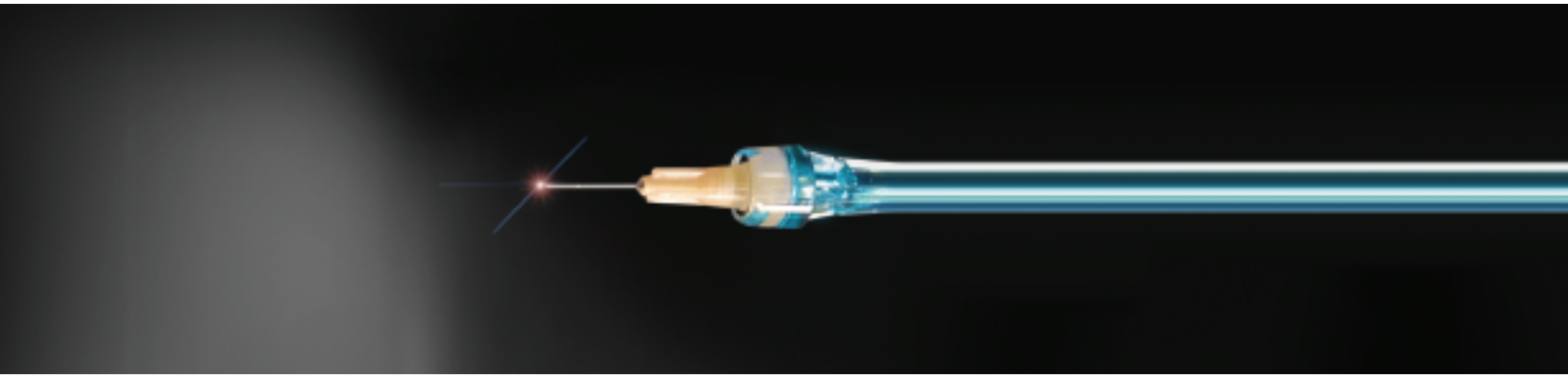
Solution: Restart the injection using less force and lighter hand-pressure while stabilizing the needle into the PDL space. You need to be aware excessive hand-pressure leads to the Overpressure Alert. With consistent use, you will quickly find the optimal amount of hand pressure required to allow the back-pressure to gradually build but doesn't cause the Overpressure Alert, by relying upon the DPS real-time feedback technology.

Question:
When I remove the needle from the PDL space there is a Spray-back of anesthetic solution into the patients mouth causing an unpleasant taste, How can I prevent that?

Answer:
When properly performing the STA-Intraligamentary injection there's an internal build-up of fluid pressure within the handpiece tubing, this excess pressure is relieved when the needle is moved from the PDL tissues resulting in Spray-back of anesthetic solution.

Solution: There are 3 simple ways you can prevent Spray-Back into your patients mouth.

1. Wait 15 to 20 seconds before removing the needle to allow the build up of pressure to dissipate within the periodontal tissues before removing the needle.



Owing to anatomic variations you may achieve success while in the high yellow zone.

The high yellow LED indicates that you have a high probability of being in the optimal needle position to perform the STA-Intraligamentary injection. It is necessary that the high yellow LED consistently be maintained throughout the injection process to achieve success. Note you will not hear the audible spoken words "PDL" in the yellow zone. The green LED indicates the highest probability that the correct needle position has been achieved and therefore you will now hear the spoken "PDL" announcement. A successful STA-Intraligamentary injection can occur in either the high yellow or green LED zone as both are indicative of the PDL tissue.

Question:
I placed the needle into the PDL space as instructed and I keep getting an "OVERPRESSURE" Alert and the unit stops, what is the reason for this?

Answer:
You may have blocked the orifice of the needle by pushing to heavily on the handpiece or by placing the bevel of the needle flush against the bone, prohibiting the anesthetic from flowing freely. There are also situations in which you have cored a tissue plug and the needle becomes blocked. These are all situations where the unit is reading more pressure then it should so the unit will shut down as a safety precaution.

2. Second Alternative: Use a cotton-roll or cotton-applicator adjacent to the needle tip to absorb the anesthetic solution upon removal of the needle tip from the sulcus.

3. Third Alternative: Remove the needle from PDL tissues as soon as Aspiration starts. Aspiration creates a suction at 1-2 seconds of the aspiration cycle, removing the needle as soon as aspiration starts relieves the pressure and prevents spray back.

Question:
I have having difficulty accessing the DL and ML line angles on Mandibular teeth for the intraligamentary injection is there anything I can do to make gaining access easier?

Answer:
We recommend approaching the PDL space from the lingual as the anatomy shows that it is the path of least resistance for the anesthetic solution when placed on the distal-lingual and mesial-lingual. It is important to always start the STA-Intraligamentary injection from the Distal-lingual of the tooth, this allows the anesthetic to be deposited closest to the direction from which the nerve enters the tooth.

Lastly, to improve the access to the lingual you can shorten the STA Handpiece. You can modify the length of all STA Handpieces that you are using. Simply removing the tubing from the plastic handle and bend the handpiece back-and-forth to break off the unneeded segment. This allows you to create an ultra-short Wand Handpiece which may be particularly valuable when performing injections in situations with limited access.

Question:
I've administered the local anesthetic, and I see blanching, but I don't get any pulpal anesthesia.

Answer:
What is likely happening is the needle is impinging on the crest of bone. The anesthetic is diffusing into the buccal soft tissue which is why you're not getting any pulpal anesthesia. To correct this, make certain that your needle is in contact with the tooth the entire time, and that the tip is placed at the entrance of the PDL space, this will ensure that the anesthetic will be deposited in the PDL space so that you achieve pulpal anesthesia.

Question:
I see blanching going all the way down to the floor of the mouth. Again, I don't have pulpal anesthesia. Why?

Answer:
In this situation the needle is likely to be lingual to the alveolar bone, and the anesthetic is in fact diffusing into the floor of the mouth. To correct this, advance the needle along the tooth. Keep the bevel along the tooth, and slide it again into the PDL space before depositing the anesthetic.

Question:
Why am I not achieving pulpal anesthesia that lasts long enough with my intraligamentary injection?

Answer:
One possibility is a simple one. Drugs affect different patients in different ways. Even though a drug may provide one hour's worth of pulpal anesthesia in some patients, it won't always. Another possibility and a very likely one when doing the PDL is you didn't deposit an adequate volume of anesthetic for your drug of choice.

Question:
Why is it that the anesthetic squirts into the patient's mouth during the intraligamentary injection?

Answer:
What's happening could be one of two possible problems. The first and more likely is that you have not advanced the needle far enough into the PDL and a seal was not formed, and the path of least resistance is for the anesthetic to simply diffuse back into the oral cavity. The second possibility is you're in far enough but you are not maintaining a slight downward pressure on the needle throughout the injection. Again, that breaks the seal, allowing the anesthetic to diffuse back into the patient's mouth.

Question:
In doing a PDL injection, everything feels and looks right. No anesthetic is leaking into the patient's mouth. However, there is no blanching, and when I remove the needle from the patient's tissue a lot of anesthetic flows into the patient's mouth. How can I correct this?

Answer:
What is happening is improper technique. If the bevel is facing against the bone, it is likely that the needle will become obstructed by the bone, preventing the blanching from occurring and preventing the anesthetic from flowing out. When you remove the needle, the pressure inside the tubing will force the anesthetic into the patient's mouth.

This can be corrected by simply having the bevel of the needle facing the tooth, and advancing your needle with the bevel in contact with the tooth until resistance is met. This will prevent the needle from becoming obstructed with bone.

Question:
Is there anything I should do if my patient experiences tissue sloughing or necrosis from an intraligamentary injection?

Answer:
One can provide palative treatment and may recommend a topical ointment to assist in the soft tissue healing. Such ointments include: Topical vitamin E, or Orabase Ointment.

As with all adverse reactions it is advisable to have the patient return to the office to monitor the healing.

Question:
Where is the proper needle landmark for the AMSA injection?

Answer:
The injection site for the AMSA is at a point which bisects the first and second pre-molars and is midway between the free gingival margin and mid-palatine suture. This landmark may vary somewhat depending upon the anatomy of the palate vault. A more appropriate description may be between the pre-molars and at the junction of the horizontal and vertical component of the palate. This injection can performed with minimal discomfort when performed properly.

Question:
What do you mean by the Pre-puncture technique and why is topical not needed?

Answer:
The Pre-puncture technique is a technique that is used to minimize the sensation that can occur from needle penetration so that a topical anesthetic is not necessary.

The technique is performed as follows:
Gently lay the bevel of the needle against the palatal tissue, but do not puncture it. This can be achieved by holding the handpiece at a 45 degree angle to the palatal surface. Secure the tip of the needle in place by gently applying pressure with a cotton applicator on the needle tip and tissue. This causes pressure anesthesia and will help to absorb any excess anesthetic and make for a more comfortable needle entry. Next, you'll initiate cruise control by depressing the foot control pedal. After 3 seconds the STA System will announce "Cruise". Upon hearing the "cruise" announcement remove your foot from the foot control pedal.

This begins the anesthetic flow to the injection site – this technique of allowing anesthetic to contact and diffuse through the outer layers of the gingiva and mimics the effect of a topical anesthetic. Do not puncture the tissue at this time. Continue to allow the needle to stay on the surface for 8-10 seconds before initiating penetration of the surface. You may now slowly penetrate the surface of the tissue by gently rotating the needle back and forth.

Question:
What is the Bi-directional insertion technique and why should I use it for the Mandibular Block Injection?

Answer:
With a traditional dental syringe, missed blocks are usually due to needle deflection. During a traditional injection, the static needle bevel orientation forces the needle to deflect as the needle is inserted. Holding the STA like a pen, allows the user to roll the handpiece between their thumb and forefinger creating an axial-rotation. This continual rotation of the needle bevel prevents needle deflection. This technique is called the Bi-rotational insertion technique.

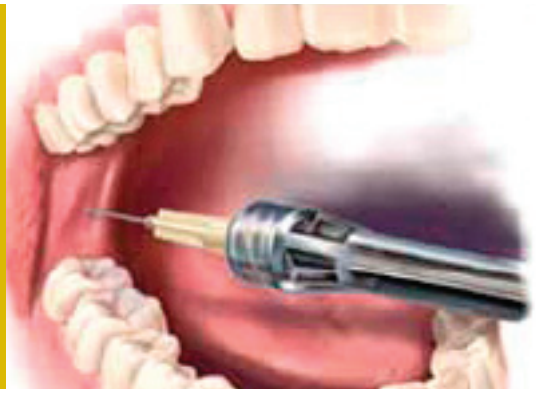
Question:
Why not one in fifty thousand EPI?

Answer:
Experience has shown that the eschemia or blanching that occurs in the PDL injection with one in a hundred thousand epinephrine is more than adequate to provide profound anesthesia of the tooth and the soft tissues. There is really no reason to use as much epinephrine as is found in a one to fifty thousand concentration.

Question:
Why do we recommend a volume of 0.9 ml's when other PDL injection techniques recommend a volume of 0.2 ml's per injection site?

"Eliminating the worry about a child biting their lip is the best part"

WILLIAM H. LIEBERMAN, D.D.S., M.B.A.



Question:
Which teeth are anesthetized using the AMSA?

Answer:
The AMSA will produce anesthesia from the maxillary central incisors to the mesial buccal root of the maxillary first molar on the side it is performed.

Question:
Which teeth are anesthetized using the PASA?

Answer:
The PASA is the only dental injection that can cross the midline of the alveolus and will produce bilateral anesthesia of the maxillary incisors and canines from a single palatal injection.

Question:
Where do I perform the PASA?

Answer:
This injection is initiated just lateral to the incisive papilla targeting the incisive canal. The objective is to gain entrance into the incisive canal, and maintain contact with the inner bony wall. This injection can be performed with minimal discomfort when performed properly.

Answer:
One of the reasons is that we are dealing with a totally different fluid dynamic.

We are depositing the anesthetic slowly at a constant rate, so the anesthetic will diffuse along the path of least resistance, allowing for a larger volume to be delivered.

With other techniques, a smaller volume is placed under high pressure. In that situation, more patients will have post-operative discomfort. When the larger volume is placed in slowly, it is rare to have a patient complain of post-anesthetic discomfort with the PDL injection. Some patients may mention that their tongue or lip get numb following the PDL injection. In our experience, this is entirely normal in some patients.

Question:
The System isn't aspirating fully. How can this be fixed?

Answer:
If the unit isn't performing a full aspiration, remove the cartridge of anesthetic, put the unit in NORMAL Mode, turn the auto retract/purge light off and step on the foot control to expose the plunger on the top of the unit fully. Once the plunger is in full view, inspect the plunger an check the O-ring to see if it is worn, dry or cracked. If so, replace the O-ring and lightly lubricate the O-ring and plunger.

Question:
I've loaded the anesthetic and cartridge holder into the unit and it did not purge. What is wrong?

Answer:
First, check to see that the Auto purge/retract light is lit. Remove cartridge holder from unit and make sure that the clear spike inside the cartridge holder has punctured the diaphragm on the anesthetic cartridge. If the diaphragm is not punctured, remove cartridge and reload it into the cartridge holder making sure it punctures the second time. If the diaphragm isn't punctured again, try another cartridge of anesthetic or try wetting the diaphragm with a drop of water before puncturing again.

If the diaphragm was punctured try turning the cartridge holder a full turn counter clockwise again. If it isn't fully engaged, the unit will not recognize that a cartridge is loaded.

Question:
I'm having trouble accessing the line angles for the PDL injection as the handpiece seems too large for the patients mouth. Any suggestions?

Answer:
Break the handpiece or try bending the handpiece for better angulation! By breaking the handpiece you will have a syringe the size of an endodontic file, and this give you much better tactile feel, more control and much better accessibility to those hard to reach areas.

POST-OPERATIVE COMPLICATIONS:

Question:
After the anesthesia wore off my patient complained of soreness to the area of the STA-Intraligamentary injection. There are three primary reasons for post-operative discomfort from the PDL injection, and these are:

Answer:
The first reason the PDL tissues can be traumatized is from mechanical injury from needle manipulations. It is important not to use excessive hand force when placing the needles into the PDL space. Wedging or forcing the needle into the PDL space can cause post-operative discomfort.

SOLUTION: Do not use excessive heavy force on the handpiece or wedge/force the needle into the PDL space. Use a lighter, more delicate hand pressure when placing the needle into the PDL space. Try not to "poke" around excessively with the needle when finding the PDL space. All of these suggestions will help minimize mechanical trauma from the needle.

The second general reason for post-operative discomfort may be as a result of an improper amount of anesthetic solution being delivered, resulting in excessive fluid volume in the area of the dental papilla or periodontal ligament causing tissue damage.

SOLUTION: Do not use excessive amounts of anesthetic solution at any one given site when performing the PDL injection. Always follow the drug manufacturers recommendations as a guideline.

The third general reason for post-operative discomfort may be related to the dental anesthetic solution used during the PDL injection.

SOLUTION: Using the following anesthetic solutions is CONTRA-INDICATED when performing the Intraligamentary injection:
4% Articaine - 1:100,00 epinephrine
2% Xylocaine Lidocaine - 1:50,000 epinephrine

Question:
After performing the STA-Intraligamentary injection my patient experienced tissue necrosis. The reasons for this are as follows:

Answer:
Tissue necrosis can result from either mechanical damage to the tissues or excessive volumes of anesthetic solution improperly placed within the soft tissues leading that can lead to blockage of blood flow to these tissues culminating in necrosis of the tissue. It is also quite possible that certain patients with a thin delicate periodontium may be more prone tissue necrosis because of anatomic variations of these patients.

Solution: Mechanical trauma can play a role in tissue necrosis. Using delicate, careful needle manipulation will prevent adverse tissue reactions from needle manipulation. If one notices a very rapid and extreme blanching of the interdental papilla when performing the PDL injection one is advised to verify correct needle position. This type of extreme response can be related to improper needle placement or proper placement of the needle on a patient with a thin, delicate tissue type. Either of these conditions may lead to an excessive build up of fluid volume within the soft tissues for that patient.

It is also advisable to assess the tissue quality of our patients periodontium prior to performing an intraligamentary injection. Patients with thin, delicate periodontal tissues may be more prone to tissue necrosis when performing the PDL injection, particularly if large volumes of solution are placed into the overlying soft tissues.

Finally, it is important to adhere to the anesthetic recommendations from the drug manufacturer when performing the intraligamentary injection.

Using the following anesthetic solutions is CONTRA-INDICATED when performing the Intraligamentary injection:

4% Articaine 1:100,00 epinephrine
2% Xylocaine 1:50,000 epinephrine

ANESTHESIA GUIDELINES:

STA Intraligamentary:

If using 2% Lidocaine with 1:100,000 epinephrine or similar, a _ cartridge can be delivered at the Distal line angle site and a _ cartridge at the Mesial line angle site of a multi rooted tooth. On a single rooted tooth you will only need to deliver a _ cartridge at the DL line angle.

NOTE: The use of 2% anesthetics with a vasoconstrictor of 1:50,000 epinephrine is NOT recommended for intraligamentary injections.

When using 4% Articaine it is recommended that you only use Articaine with a concentration of 1:200,000 epinephrine, a _ of a cartridge can be delivered at the DL line angle and a _ of a cartridge at the ML line angle site of a multi rooted tooth. On a single rooted tooth you will only need to deliver a _ of a cartridge at the DL line angle.

NOTE: The use of 4% Articaine with 1:100,000 epinephrine is NOT recommended for intraligamentary injections.

When using 4% Articaine a concentration of either 1:100,000 or 1:200,000 epinephrine may be used.

Recommended dosage is 1 full cartridge for a 2% anesthetic with a 1:100,000 concentration of epinephrine or _ a cartridge for a 4% anesthetic with a 1:200,000 concentration of epinephrine.

Palatal Injections:

Use 2% Lidocaine with an epinephrine concentration of 1:100,000. Recommended dosage is from 3/4 to 1 full cartridge.

When using 4% Articaine a concentration of 1:200,000 epinephrine is recommended. Recommended dosage is _ to a _ cartridge.

NOTE: It is NOT recommended that 4% Articaine with a concentration of a 1:100,000 epinephrine be used for palatal injections. It is also NOT recommended that 2% Lidocaine with a concentration of 1:50,000 epinephrine be used for palatal injections.

"STA allows me to begin every injection technique with significantly less stress for me and my patient"

DR. MARTY JABLOW

There are several contraindications to performing this injection. Patients with active or advanced periodontal disease should be avoided. Patients with acute gingivitis should be avoided to minimize the risk of bacteremia.

Inferior Alveolar Block Injection:

In regard to your choice of anesthetic solutions, it is recommended to use 2% Lidocaine with an epinephrine concentration of 1:100,000

When using 4% Articaine a concentration of either 1:100,000 or 1:200,000 epinephrine may be used.

Recommended dosage is 1 full cartridge for a 2% anesthetic with a 1:100,000 concentration of epinephrine or a _ cartridge for a 4% anesthetic with a 1:200,000 concentration of epinephrine.

Supraperiosteal Infiltration Injections:

It is recommended to use 2% Lidocaine with an epinephrine concentration of 1:100,000.

MAINTENANCE OF YOUR STA SYSTEM:

Question:

My STA System just announced "Lubricate O-ring and plunger" when I turned the unit on. How do I properly lubricate the O-ring on the shaft of the STA Unit?

Answer:

To properly lubricate the O-ring on the tip of the shaft of the plunger you must first fully extend the metal shaft of the STA Unit. Simple Turn the unit off, then depress and hold the "Hold To Retract" button on the top front the STA control Panel, now continue to depress the Hold to Retract button as you turn the unit back ON. The plunger will now fully extend itself allowing you to gain access to the full length of the shaft and O-ring. Lubricate with silicone provided in each box of STA handpieces. To retract the plunger, simply depress and release the "Hold to retract" button and the plunger will return to the Home position. Your unit is now ready to be used.

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have switched from
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