Anesthesia revolution paradigm shift

The Buccal Furca PDL/Cryotopical Technique

Nicknamed ‘Perkins Perfectly Painless’ by the Townies of DentalTown.com, this injection method is predictable and cost effective

Scott Perkins, DDS

Old paradigms die hard. I’d like to tell you about an anesthesia technique so revolutionary, and its impact so profound, it provides convincing evidence the paradigm dentists have been operating under for the last fifty years is about to fall faster and harder than a statue of Saddam Hussein hitting the dirt in downtown Baghdad.

The paradigm is the common use of block anesthesia and working two chairs at a time.

The Advent of Block Anesthesia

Chemist, Alfred Einhorn introduced Novocaine in 1905. Einhorn was researching an easy-to-use and safe local anesthesia to use in dentistry. He refined the chemical procaine until it was effective, and named the product Novocaine. The inferior alveolar nerve block was discovered several years earlier by an American surgeon, William Halsted. Combining the new local anesthetic with the block technique was the key to finally enabling the anesthetizing of mandibular teeth. Thousands of years of suffering from the pain of dental treatment seemed to be suddenly solved. It was truly a remarkable event in the history of dentistry and the IAN block has been taught in dental schools around the world ever since. The IAN block serves to this day as the technique of choice for the administration of anesthesia to lower teeth.

Time, Pain and Unpredictability

As revolutionary as block anesthesia with Novocaine was, it had its drawbacks, one of which was time. It took time for a block to take effect. Another drawback was predictability. A percentage of the time, a block just wouldn’t take, even when the classic signs of anesthesia were present because collateral innervation caused the block to fail. Dentists and patients began to discover this caveat simultaneously as soon as the dentist placed the drill on the patient’s tooth—not cool!

Not only does the unpredictability of block anesthesia add additional time to a procedure, it has the practice-killing effect of subjecting the patient to an experience indistinguishable from the days when local anesthetic wasn’t available at all. In fact, often times it is a worse experience. In the old days, at least the patient had a shot of whiskey to help him out.

Interestingly, most dentists are under the impression that they are fairly successful with the block technique, even though, countless studies have shown initial success rates of no better than 40-57% using 15 minutes as a profound anesthesia onset time.

At a recent lecture I was giving, a dentist claimed to have a 90% success rate with block anesthesia in 5 minutes. I cannot refute his claim. In the lecture, however, I asked the group of dentists how many of them had experienced pain while undergoing dental treatment after block anesthesia. About half the room raised their hand, just as the studies indicated.

Importance of Anesthesia in Dentistry

Think about it for a minute. As dentists, what do we do all day? We drill on teeth. But the problem is the teeth are loaded with nerves and the patients won’t let us work on their teeth until they believe we have silenced these nerves. We are so intent on performing the “truly important” aspect of dentistry—applying our skill in preparing teeth for fillings, crowns, root canals, etc., most of us view administering anesthesia as little more than a sort of annoying, necessary evil. We believe it is our dentistry, and the excellent performance of it, that it is of primary importance to our ability to serve the patient and earn income for ourselves.

In fact, we put such a high priority on the dentistry that we allow the patient to “tough it out” now and then in order to hurry up and finish our procedures. We perpetuate dental phobia.

One phobic patient told me, “I’d rather charge the gates of hell with a bucket of ice water than go to the dentist.” He had stayed

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away for eleven years. His pano revealed he had about 3mm of alveolar bone holding in most of his teeth.

There isn’t a dentist alive that hasn’t heard a phobic female say, “I’d rather have a baby than go to the dentist.” Take a poll of your patients; ask them if shots bother them. Most will say, “Not that much, it’s the sound of the drill I can’t stand.”

**Pavlov**

Think about this for a minute...do you believe someone would rather be poked by a sharp needle than listen to a sound? I’d say it is highly unlikely. These ‘sound’ phobic patients have previously been drilled on without complete anesthesia. The searing pain of a drill on dentinal tubules is associated with the high pitched sound of the drill. It is a Pavlovian conditioned response and millions of people have acquired it at the hands of dentists who think their block anesthesia is effective the vast majority of the time.

Drilling on patients you think are numb and then striking their nerves with your drill creates a conditioned response of pain avoidance towards the immediate surroundings. No wonder people often say, “I hate the dentist.”

**“Road” Block Anesthesia**

The truth of the matter is, block anesthesia is costing you a fortune. It makes you hop in and out of operatories. It makes you leave a patient alone (sometimes I forget about them altogether) while you go see another patient. The time we have built into our schedules to accommodate this century old technique is crippling. About 15 minutes of every hour we work on lower teeth is swallowed up by block anesthesia. All this because of the impenetrable cortical plate. The cortical plate and resultant block anesthesia technique wrecks the predictability of our schedule, creates phobics out of at least 25% of the population and cuts huge swaths out of our productivity besides making us viewed as the rough equivalent of the devil in the eyes of many. Heck, half the time block anesthesia flat out just doesn’t work at all!

**What if?**

What if you could give anesthesia painlessly almost every time, to a single tooth and it would go profoundly numb 95% of the time in about 2-3 minutes? Imagine, being able to always schedule your procedures with a high rate of predictability so you would only rarely be over or under time and the patient would never feel the sensation of being numb, an electrical shock or a rapid heart rate, or the sensation of a drill being poked into their dentinal tubules and getting all stressed out. Then imagine what it would be like if you didn’t have to go chair hopping, re-shoot the patient, or give them only a fraction of the anesthesia. And then, imagine if the patients thought you were great because they could talk and eat after you treated them. Then think about no missed lunches and being able to go home on time every day, including your staff.

And what if the economic effect of this technique was so great it added another 30% or so of net income into your bank account per year? How would you feel about a technique that delivers all of that?

**Brace Yourself**

The procedure is here and it does exactly all the things described above, once mastered.

**The Buccal Furca PDL Technique**

Using a PeriPress syringe with a 30-gauge extra short needle, carefully irrigate the sulcus of the tooth you wish to anesthetize. Place a cotton roll in the buccal vestibule. Endo Ice for about 3 seconds. Spray a cotton-tipped applicator with Endo Ice for about 3 seconds. Place the “Cryotopical” on the buccal gingiva approximating where the length of the needle will travel for no more than 3 seconds. Place the needle into the sulcus and penetrate as you slowly inject.

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**Preface the injection with the following narrative:** “I’m using a very effective technique with the most potent anesthesia available today. The chances of feeling discomfort are very rare. You will be aware of pressure as I give it. It works very quickly to put the tooth in a deep sleep. You will not have the sensation of being numb. We will be able to work on your tooth immediately after the anesthesia is administered and you will remain completely comfortable as your lip and tongue will not go numb.”

**The Buccal Furca PDL Technique**

Administer 2 Tylenol and 2 Advil approximately 15 minutes before the injection. Tell the patient, “These will make your visit more comfortable.”

The inhibition of prostaglandin synthesis...
Cryotopical Buccal Furca PDL Technique

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Align the vector of force of your syringe along the long axis of the needle and penetrate the PDL as deep as you can.

Slowly inject over a time period of one to two minutes about 1 to 2 rubber stoppers full of articaine.

Because the patient doesn’t feel numb s/he thinks the tooth is not asleep. Convince them by placing Endo Ice on a cotton-tipped applicator and applying to a ‘live’ tooth as a reference. Next, place the swab on the tooth you are working on. If the patient cannot feel it, it is safe to work because the patient will now believe the tooth is numb.

You can now tell your patient, “We can now restore your tooth in comfort.”

Cryoanalgesia and Cryoanesthesia
I first learned of using cold as a topical for palatal injections on DentalTown.com. I quickly adapted it for use on the buccal furca gingiva in order to allow me to insert the needle into the buccal furca PDL painlessly.

During a search on Medline, I encountered the terms Cryoanalgesia and Cryoanesthesia. As it turns out, these techniques have both been used for thousands of years. The ancient Greeks used application of cold to reduce pain.

Cryoanalgesia is used more and more these days by medical doctors, particularly dermatologists for a variety of procedures. One is to control the heat of laser therapy as well as to provide topical anesthesia. Temperatures used for removing warts and moles make use of a refrigerant spray that achieves temperatures of -80 degrees Centigrade.

The Endo-Ice refrigerant spray I am using for topical (never to be used as a direct spray in the mouth), achieves temperatures of -26.2 degrees Centigrade. A three second application does not damage the gingiva. The cotton-tipped applicator holds a limited volume of refrigerant spray which acts as a heat sink and is quickly warmed. A three second application is sufficient, more time creates sensitivity. Avoid touching the tooth at all costs!

The distance between the gingiva, alveolar bone and periodontal ligament is short. Upon removal of the cotton tipped applicator with refrigerant spray a frosty white patch is left over the area. The cold application renders the nerves in the PDL temporarily senseless like a child’s fingers after playing in the snow too long. The systemic analgesia may only have a placebo effect and the combination effect of the topical application of articaine and cold allows the needle to be placed painlessly into the PDL at this point.

Why the Buccal Furca PDL Shot works so well
Quite simply, it is the fastest, shortest route to the pulp. The beauty of the buccal furca PDL technique lies in the anatomy of the lower molar teeth. Research has demonstrated that approximately 57% of the time there are accessory canals that travel from the roof of the furca to the floor of the pulp chamber. The approximation of the tip of the hypodermic syringe is within a few millimeters of the accessory canals. There is a direct path to the pulp via these canals.

The anesthesia floods the PDL space and infiltrates the entire sheath effectively penetrating all of the accessory canals and even numbing the lingual tissue.

Hit me with your best shot
Many clinicians take comfort in the idea of “shotgunning” the anesthesia. A penetration is made distal, mesial, buccal and lingual. Multiple injections take time and increase the chance for discomfort. In addition, patients have an uncanny ability to count the number of times that you poke them with a needle. They frequently go back to their office and tell everybody their “war” story and scare the heck out of all their co-workers.

In fact, a single, well placed shot is all that’s necessary. Like a laser-guided bunker buster–aim straight, penetrate deep and deposit the payload right on the target. Do that and save yourself the time and effort of making a pincushion of your patient.

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Avoiding Complications

A deep penetration such that removal of the needle is like pulling a tack from a corkboard is the indication of a good penetration. This insures a high success rate. The main complication is post-op soreness and rarely necrosis. Both of these can be avoided by a very slow injection and a very low dose of anesthesia. High pressure, fast injections rupture the PDL and cause tissue damage as well as increased likelihood of necrosis. The pre-op NSAID dose inhibits prostaglandin synthesis and helps eliminate post-op pain.

Careful pressure with a gun-style intraligamentary syringe allows easier application of the penetrating force required to sink the needle into the PDL. I’ve located a nice PDL gun style syringe called the PeriPress.

It is common to bend a needle. If this happens, trash the needle and replace it with a new one.

Block Anesthesia Begone!

Block anesthesia...you don’t need it. Get rid of it! You are most frequently blocking an entire quadrant of teeth just to treat one tooth. You’re making the patient drool, effecting their speech, wasting their time, wasting your time, making some of them feel like they are having a heart attack, hurting them anyway and making yourself hop from chair to chair. You and the patient are stressed with this costly and very unnecessary technique.

The Buccal Furca PDL Technique is rapid, predictable, profound and painless. It allows a dramatic paradigm shift that is gathering dedicated followers who have experienced the unparalleled economic and quality of life benefits that result from its use.

The BFPDL technique is appreciated by patients for its superior comfort level, shorter treatment times and uninterrupted attention from the doctor.

Townie Bob Perri comments about his experience with the Cryotopical Buccal Furca technique...

“Tried it for the first time today, deep MOD on #31. Outstanding result on a difficult-to-nerve block-patient. Thanks for the tip.”

Townie Craig Rhodes, DMD, MAGD, posted:

“Just tried it on myself–facial of #24 with Septocaine/30g regular needle and did not feel it–awesome!!! Can’t wait to try it next week. Thanks.”

Scott Perkins, DDS, is a full-time, solo, private care, general dentist who practices in downtown Houston, TX. He has authored several articles, most of them on clinical efficiencies. His Extreme Efficiency videos have turned into best sellers, including, The 15-Minute Crown Procedure, The 15-Minute Molar Endo, and The Ultimate Patient Perio video.

His latest production, the Perfectly Painless Anesthesia Video, explores the sensing, transmission and interpretation of pain and efficient strategies of shutting down the pain gate. A fresh look at audioanalgesia, distraction anesthesia, Cryoanesthesia, the buccal furca PDL, the painless palatal, mastering the nuances of intra-osseous anesthesia and a detailed analysis of the economics of rapid, predictable, profound, painless anesthesia are topics covered in this exciting and cutting-edge video.

Find out more online...
If you would like to read the Townies discussion on Scott Perkins Buccal Furca PDL Technique, go online to www.dentaltown.com as this subject has been discussed extensively on the Endodontics—The Endo Files forum, Search words: Perkins Perfectly Painless Anesthesia Technique, or look in the January 2003 Issue forum, Search words: Scott Perkins injection technique.

Scott’s efficiency videos may be purchased online at his website, SimpleDental.com or by calling 800-454-5161.