

# A lesson in ease...

A case study demonstrating the options for easing patients' fears, their pain, and your stress. by Margaret J. Fehrenbach, RDH, MS



Pain control is an integral part of treatment planning for our dental hygiene patients.<sup>1</sup> When we think of pain control, we usually think only of local anesthesia and nitrous oxide.\* However, pain control can involve more options, and even the standard procedures can involve further modifications based on the individual.

Understanding the Gate Control Theory (GTC), we know that it is important to consider controlling the smallest discomfort to keep the "gate" closed to higher levels. The GTC posits that, before pain message can reach the brain, they encounter "nerve gates" in the spinal cord that open or close depending upon a number of factors (possibly including instructions coming down from the brain). When the gates are opening, pain messages get through more or less easily and pain can be intense. When the gates close, pain messages are prevented from reaching the brain and may not even be experienced.<sup>1a</sup>

## SETTING THE SCENE

The case we will consider involves a nervous, mature woman who is receiving care for the first time in 10 years. She has moderate periodontal disease with gingival recession, and is a Type 2 diabetic.

**Education and preparation.** At her initial examination, we discussed options for pain control and recorded her needs; we provided a brochure outlining her treatment plan. Her first appointments are for non-surgical periodontal treatment. Knowing her history, we would schedule her for a morning appointment, as she

\* Administration of local anesthesia, nitrous oxide, or other subgingival medicaments by a dental hygienist is regulated at this time by individual state regulatory agencies.

needs to be rested and have eaten a good breakfast.<sup>2</sup> It also is recommended that she take an over-the-counter (OTC) pain reliever before appointments in order to reduce pre-operative inflammation. She also will self-test her blood sugar level before each appointment and has been instructed in at-home oral hygiene methods, including the use of desensitizing toothpaste.

Knowing that local anesthesia will give her pulpal as well as soft tissue anesthesia and that instrumentation on her exposed roots may be uncomfortable, we let her know that local anesthesia is needed for optimal treatment. If a person knows why they are having pain, they tend to deal with it better. Nitrous oxide is recommended to reduce her anxiety; she has never experienced nitrous oxide, so we explain to her how it will feel. She knows that she can request that it be turned off anytime during the appointment.

We discuss with her the use of the ultrasonic scaler and how it is used for the majority of the deposit removal. Wrongly, some clinicians feel that the use of ultrasonics precludes the need for local anesthesia. However, in most cases, attempting to treat this type



It is important that anyone medically compromised be at his or her healthiest, since that has a bearing on pain levels.

of patient without local anesthesia will result in inadequate calculus removal, as shown by endoscopic observations.<sup>3</sup>

Finally, she has been told to let the us know how she is feeling during the appointments by using a visual analog scale (VAS) which rates levels of pain from zero to 10 (10 being the highest level).<sup>4</sup>

**Initial steps.** At the first treatment appointment, the patient lets us know that she has gone to the restroom since use of the gas can bring on feelings of body warmth.<sup>5</sup> We take her blood pressure, noting that it is slightly higher for her, but is normal if the patient is nervous. We will observe it during the appointment by leaving the monitoring device on her wrist. We make sure that the scented mask she chooses fits well and that the flow of gas is started before we place it on her face. As we start the

administration of the gas, we titrate a low level, keeping in mind the total volume that she is comfortable breathing. We watch her carefully for signs of any complications that can occur, such as nausea.<sup>5</sup>

She begins to show signs of relaxation as her hands rest

comfortably on the armrest. Her breathing is slower but steady as indicated by the reservoir bag.

We decide that after we increase the level of nitrous oxide by 5% for the injection, that a low baseline level of the gas may be enough for this patient. This means that we will reduce the gas again by 5% during instrumentation, lowering it even further near the end of the appointment. However, it is not unusual for a first time user to need higher levels of gas, so we will keep that in mind as we proceed.<sup>5</sup> Even with her nervousness, the levels will always be kept under the 50% levels to avoid complications.

The use of warm water for rinsing, and topical desensitizers placed in other areas of the mouth as an initial step, both help to further reduce any dental hypersensitivity the patient may feel in non-anesthetized areas during instrumentation.

**Injection.** In a carefully worded way, we let the patient know when we are going to inject (or cause some pain); we do not say it is going to be "really painful." After we place topical anesthetic for three minutes, we slowly inject into taut tissues using a block technique, keeping the syringe out of her sight.<sup>6</sup> The use of topical anesthetic does reduce the impact of the needle penetration, especially on the maxillary facial injections. However, the injection will need to be done within one to two minutes after removal of the topical anesthetic.

The use of blocks for local anesthesia is preferred for safety since it uses less agent and promotes effective anesthesia.<sup>7,8</sup> In addition, using a vasoconstrictor increases

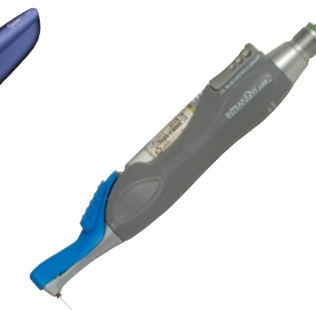
## LOCAL



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### AVAILABLE ANESTHETICS

- Kodak Dental Systems Marcaine
- Dentsply Pharmaceutical Xylocaine
- Septodont Septocaine

the safety and adds hemostatic control necessary for deposit visualization. As we proceed, we note that the patient remains relaxed and compliant. If the patient was to become restless and show signs of discomfort, we would reassess our injection technique. We proceed with instrumentation from the posterior to the anterior based on the mapping of the nerve supply anesthetized by the agent.<sup>8</sup>

**Checking in and following up.** We ask her regularly how she is feeling and she lets us know her VAS levels. When instrumentation is completed, we slowly titrate oxygen until the nitrous oxide is turned off, reducing complications. We take her blood pressure, which is back to her normal level. We discuss the appointment and ask if anything needs to be changed for the next appointments.

Having kept the levels of pain reduced during the early part of the appointment by making her comfortable, we are assured that pain levels will be under control throughout the appointment.<sup>1</sup> The patient is reminded of her post-treatment considerations, which include taking OTC pain relievers at set intervals, along with using an OTC oral rinse in order to reduce inflammation and promote healing. This is important since patients can have faint to moderate pain.<sup>9</sup> The brochure

lets her know she can call if there are any complications such as abscess formation, which may occur with medically compromised patients.<sup>10</sup>

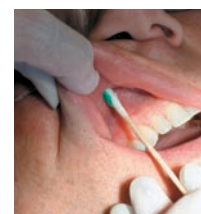
**Maintenance.** During her periodontal maintenance, we may want to use a non-injected subgingival anesthetic periodontal gel. Rescue anesthesia with local anesthesia also can be added for this patient anytime when the patient feels dental discomfort or there is excessive bleeding.

### NOT SO PAINFUL AFTER ALL

The considerations outlined for this patient show us that pain control options for dental hygiene treatment can involve many considerations such as overall comfort of the patient, topical agents, as well as individual modifications of the standard options of local anesthesia and nitrous oxide. It is important at every step of the decision-making process regarding pain control that the patient be informed and part of the process. Integrating pain control in this manner during our procedures can also leave us, as clinicians, with less stress! **mh**

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References available upon request.  
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(TOP) The levels of nitrous oxide will be kept under the 50% mark in order to avoid complications. (BOTTOM) Topical anesthetic is placed prior to injection of local anesthesia, helping to reduce the impact of needle penetration; the injection needs to be done within 1-2 minutes after removing the topical anesthetic.

## TOPICAL



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