Closed Root Planing in Veterinary Patients
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From “Veterinary Periodontology”

Introduction
Periodontal pockets are present in most small animal patients; especially older small and toy breed dogs. Any pockets deeper than normal for the species (i.e. 3-mm in a dog and 1-mm in a cat) is pathologic and in need of therapy. A thorough oral exam including periodontal probing and dental radiographs will reveal these pockets and allow for proper therapy. A dental cleaning procedure is of little to no value if periodontal pockets are not effectively treated.

Once these pockets are found, the practitioner should
1. Take a dental radiograph
2. Perform local anesthesia
3. Clean the pockets with mechanical AND hand instruments
4. Consider adding a perioceutic (e.g. Doxirobe or Clindorol)
5. Provide pain management
6. CHARGE FOR ALL OF THIS.

Thus the relatively simple act of finding and effectively cleaning these pockets not only improves the patients oral and systemic health, it is financially rewarding.

Non-surgical periodontal therapy involves removing the infection (i.e. plaque, calculus, and granulation tissue) from the root surface and then smoothing the diseased/roughened root surface. Decreasing the infection and inflammation in turn allows for gingival reattachment, leading to a decrease in pocket depth.

In dogs, pockets between 3 and 5-mm which are not associated with tooth mobility or other pathology (furcation exposure) are best treated with scaling and closed root planing. Pockets deeper than 5-mm and/or those associated with other pathology (especially furcation level II and III exposure) will not be effectively cleaned without direct root visualization, which is best afforded by periodontal flap surgery. If this is not feasible, extraction should be performed.

Options for therapy
There are two major techniques currently used for treating minor periodontal pockets. These include hand and mechanical (typically ultrasonic) scaling methods. Both of these methods are effective but have distinct advantages and disadvantages. This author recommends using a combination of these methods for best results.

The classic form of therapy is performed by hand with a curette. It is known as scaling/root planing (SRP) or closed root planing. This is an exceedingly common procedure performed routinely in human dental offices, and should be performed in veterinary hospitals with similar frequency. It is proven to be highly effective in cleaning the root surface and thereby establishing an environment for healing to occur.
Hand scaling/root planing (SRP)
The major advantage of hand scaling (when performed correctly) is the ability to achieve complete removal of subgingival plaque and calculus (to a depth of 5 mm). Furthermore, it can reliably smooth the root surface and therefore improve reattachment. The major disadvantage of this form of therapy is that it is very technically demanding for several reasons. First, subgingival calculus is harder than supragingival calculus and it tends to be locked in root surface irregularities. Second, the overlying tissues restrict subgingival instrumentation. Finally, bleeding as well as overlying inflammatory tissues can restrict visualization. Practitioners are strongly recommended to become proficient in this skill in order to better teach their staff these techniques. Hands on wet-labs should be a must for every practice, and ideally for every staff member entrusted to perform this therapy.

Equipment needs for performing closed root planning by hand:
This procedure requires only a supply of sharp dental curettes. Several curettes are needed to access the various areas of the mouth. Having at least one of each angulation/size of curette is ideal, but this may be excessive for the needs of many practices. This author recommends that each practice have the following hand equipment at minimum: a dental mirror, periodontal probe, explorer, a two- ended scaler, and finally a 1/2, 7/8, and 12/13 Gracey curette. This minimum list of equipment has been packaged and is currently commercially available. It is absolutely critical that curettes and all periodontal surgery equipment be kept sharp, as proper and effective therapy depends on sharp instruments.

Scaling/root planing
First, place the blade of the instrument on the tooth surface just coronal to the gingival margin with the lower shank parallel to the tooth surface. (Figure 1) Next, the curette is rotated so that the flat “face” of the blade is against the tooth surface. (Figure 2) This is done to minimize the width of the instrument during insertion, and to allow the blade to slide over the calculus and engage it apically. The blade is then inserted gently to the base of the pocket. (Figure 3) The expected pocket depth can be estimated by reviewing the probing depths. Excessive force can damage the delicate gingival attachment. Once the bottom of the pocket is reached, the instrument is rotated to create a 45-90 degree working angulation (closer to 90 is ideal). *When the terminal portion (or shank) is parallel to the tooth, a 90 degree angle is created.* (Figure 4) This positioning will place the sharp/working edge of the instrument perpendicular to the tooth surface, which is the correct orientation for cleaning. Once positioned, slight pressure is applied down onto the root surface. Finally, the instrument is removed from the pocket in a firm/short stroke. This procedure is repeated in numerous overlapping strokes in slightly different directions. It is important to remember that teeth are not flat, but rather generally curved to circular in shape. Therefore, the instrument must be rotated through the hand during the cleaning to keep the proper surface in contact with the contours of the tooth surface. It is important to note that it is much easier to remove successive small areas of calculus from large deposits, rather than trying to remove it all in one stroke. In the latter effort, the force is spread out over the whole instrument rather than just a small part (decreased PSI). Removal of large calculus deposits should be performed by engaging an edge of the calculus with the

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a Weldin Periodontal kit, Millex, York, PA
b Dentalaire periodontal Pack. Dentalaire, Fountain Valley, CA
terminal 1/3 of the curette and breaking off small pieces with each stroke, as one advances along
the tooth. This will not only decrease operator strain, it will decrease the chance of trauma
from a vigorous stroke.
After the initial few strokes, the resistance lessens until only a slight roughness remains. As this
occurs, the strokes should become longer and with less force applied to the tooth in order to
smooth the surface. This is an important point, since excessive strokes with firm pressure
damages the root surface unnecessarily. Root planing should continue until the entire root
surface is clean and feels smooth.

**Figure 1**

**Figure 2**

**Figure 3**

**Figure 4**

**Key Points:**
- Meticulous cleaning and smoothing of the root surface is necessary for the removal of
  infection and the healing of pockets.
- Hand scaling is very effective at cleaning but is technically demanding and relatively slow.
- Hands-on CE labs will greatly improve operator speed and quality of patient care.