

## Three Tips to Avoid Burnished Calculus

Of all the many challenges dental hygienists face during periodontal therapy, detecting and removing burnished calculus may be the biggest.

Burnished calculus can occur anywhere supra- or subgingival calculus can form, including root concavities, furcations, and cementoenamel junctions (CEJs). It forms when tenacious calculus is smoothed over by repeated, ineffective instrumentation strokes. The calculus becomes polished and embedded in the root surface, making it extremely difficult to detect and remove.

From there, pathogenic biofilm will continue to grow on that residual calculus left in the pocket, which can result in persistent inflammation and potentially significant damage to the periodontium – even bone loss or loss of attachment. In fact, one of the most reliable indicators of burnished calculus is inflammation and bleeding upon probing.

The best solution for burnished calculus? Prevention.

There are three factors that play a major role in avoiding burnished calculus: proper ultrasonic technique, proper hand instrumentation technique, and sharpness of the instruments used.

In an in-depth [webinar on burnished calculus](#), co-founder and co-director of the Pattison Institute, Anna Pattison addresses tips and techniques to avoid burnished calculus. We've summarized the top three tips in this article.

### Tip 1: Use Proper Ultrasonic Technique

Because burnishing can occur if the power setting is too low, it's important to use a medium or moderate power setting during ultrasonic scaling. Also, select tips with bevels or edges, as these are more efficient at removing tenacious calculus than tips with rounded edges.

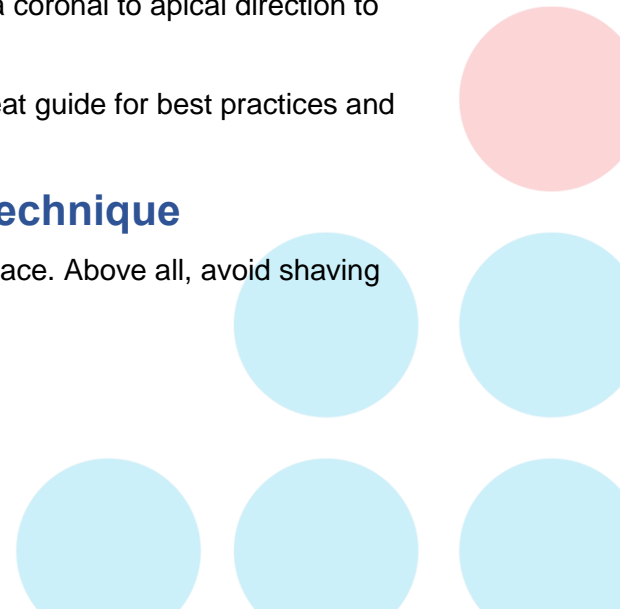
While there is vibration along the entire length of the ultrasonic tip, the first two or three millimeters of the tip is the most active area. Rather than trying to adapt the whole side of the tip, adapt only the first two to three millimeters at a safe 0-15° angle to the tooth surface for safe, effective, and efficient calculus and stain removal.

Position the tip at the coronal edge of the deposit, and make slow, short, overlapping strokes. Apply moderate pressure against the root surface and work in a coronal to apical direction to remove the entire deposit.

Our article, [Ultrasonic Inserts: Tips for Best Results](#) offers a great guide for best practices and best-in-class ultrasonic tips.

### Tip 2: Employ Proper Hand Instrument Technique

Always strive to break the calculus off cleanly from the root surface. Above all, avoid shaving the calculus!



Pressure is critical. Aim for forceful, effective strokes with maximum pressure and control of the blade. Strokes that are too light will simply shave away the calculus in layers, burnishing the calculus.

Using an instrument with a rigid shank – the [Rigid Gracey](#), for example – can help you apply the right amount of pressure, versus a standard Gracey instrument with a more flexible shank. For very small spaces, opt for a mini blade, such as the [Mini Gracey](#) or [Micro-Mini Gracey](#).

In our article, [Start the New Year with a Dental Instrument Audit](#), you can get a refresher on the importance of annual instrument audits so you can be sure to have the right tools on hand.

Your grasp and fulcrum will also dictate the amount of pressure you can apply. A firm grip and firm pressure on a built-up fulcrum will give you better control and allow you to apply firmer strokes.

Open your blade to a 70-80° angle before activating your working strokes, to avoid shaving the calculus. Begin scaling from the apical edge with overlapping, one-millimeter strokes coming up toward the crown of the tooth.

### Tip 3: Properly Sharpen Your Instruments

Dull or worn instruments are perhaps the biggest cause of burnished calculus! To avoid this, *always* use high-quality, properly sharpened instruments.

A properly sharpened blade will give you the best tool to break off the calculus cleanly and completely and will help you avoid the shaving technique that can lead to burnished calculus. Sharp blades also improve tactile sensitivity, which will help you detect any calculus that may be remaining. Sharp blades also require fewer strokes to remove the calculus, resulting in less tissue trauma (and happier patients).

At the same time, properly sharpening an instrument can be a challenge. One helpful solution is the [Hu-Friedy Sharpening Assistant](#). Designed to be used with an Amazon Echo device, this Alexa Skill walks you through every step of the sharpening process, so you can be sure you're doing everything correctly.

In our article, [Best Practices for Sharpening Dental Instruments](#), you can brush up your instrument sharpening skills. Or, explore [Hu-Friedy's YouTube channel](#) for multiple videos full of effective sharpening tips and how-to demonstrations.

Better yet, consider enrolling in [EverCare](#), Hu-Friedy's subscription sharpening service! Simply send your dull Hu-Friedy scalers back to our facility, and we'll restore your instrument to like-new condition and send it back to you in only 3.5 business days.

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For more information about dental instrumentation that can help you avoid burnished calculus, visit [HuFriedyGroup.com](#)