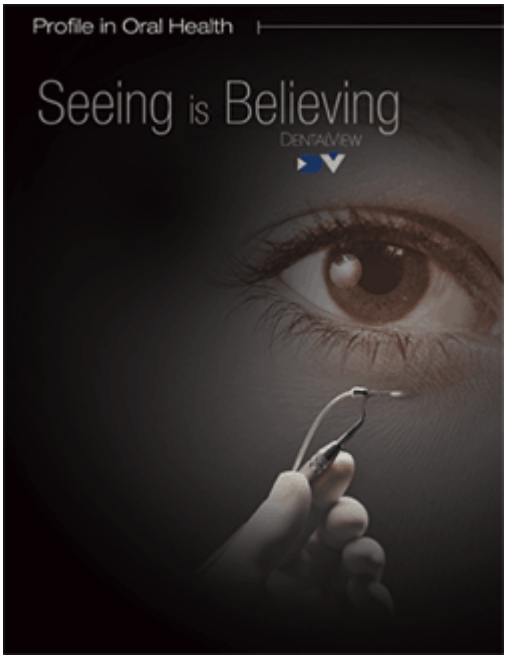
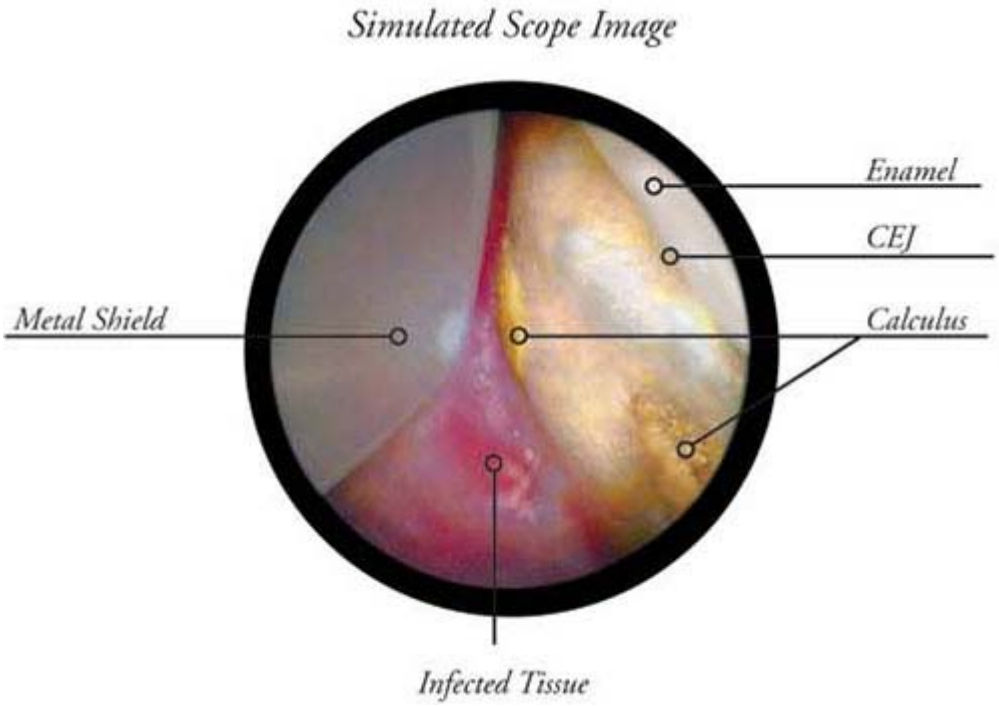
Seeing is Believing



Mikelle Watson, RDH, spoke at the Las Vegas, Townie Meeting in March this year to an enthusiastic group of hygienists eager to learn more about Perioscopy. Mikelle began her presentation with a question: "What do you do when you've already done everything and you still have pockets that bleed? You've scaled. You've root planed. You've done your best with oral hygiene instruction and despite all your efforts, the patient returns with areas that don't heal. Sure, most areas did heal, but you want all the pockets to heal. You did your absolute best with subgingival instrumentation using power scalers and a wide variety of hand instruments. The root surfaces feel smooth as glass. Why aren't they healed? If only you could look at those subgingival surfaces, you would know what to do. Now you can! With Perioscopy you have a tiny camera to check out those pockets and find out why they didn't heal."

This upbeat, energetic hygienist is full of energy, passion and answers about an exciting new technology sure to change dental hygiene more than any other single product has. She is one of a new breed of seasoned hygien ists who've developed their perio skills to the highest level possible––and still wanted to accomp lish more for their pat ients. Hygienists using Perioscopy are now able to reach the next level of patient care by removing the blindfolds and for the first time, seeing the root surface, seeing instru ment effectiveness, and actu ally seeing what tissue inflammation looks like, all at a magnification of up to 48x. It's definitely an incredible tool for hygienists.



HT: Mikelle, I really enjoyed your presentation at the Townie Meeting. Your work with DentalView, Inc., the company that founded Perioscopy, is cutting edge hygiene. I know the idea of a camera in the periodontal pocket is new to many hygienists. Could you briefly explain to us the concept of subgingival endoscopy, which is the driving force behind Perioscopy?

MW: Subgingival endoscopy is a miniature fiberoptic camera that provides real-time visualization of subgingival anatomy enhanced by intense illumination and 24-48x magnification. The DV2 Perioscopy System integrates a miniature camera, light, water irrigation, a digital processor, and a flat panel video monitor that captures the real-time images. The illumination and water are controlled by a foot-activated control system. The Perioscopy camera magnifies root surfaces, furcations, and soft tissue in the pocket. It pinpoints residual calculus remaining after traditional instrumentation and allows for more thorough removal of tenacious deposits.

HT: When did the company start and were there any challenges converting medical endoscopy to the periodontal pocket?

MW: DentalView was founded over 10 years ago. Developing an endoscope for use in the periodontal pocket, has not been an easy task. The challenge has been to refine miniaturized fiberoptics to achieve the best image possible, and to do this with a fiberoptic bundle no larger than one millimeter. Water was also needed with the endoscope to flush the pocket and provide a clear image. Other challenges include instrument designs that need to be adaptable to all areas of the mouth, and the protective sheath must be disposable. The first Perioscopy System was introduced in 1998, and over the past seven years we've seen many improvements, with innovations still ahead. We now have four subgingival instruments and one supragingival instrument called explorers. When you think of explorer a thin pointed tip comes to mind, but these explorers take the camera into the pocket to "explore." The disposable sheath was also a challenge to design in order to avoid the need to sterilize the fiberoptic endoscope. The disposable, sterile sheath encloses, protects and keeps the endoscope fibers sterile.

HT: Where does Perioscopy fit into the practice of dental hygiene?

MW: Dental endoscopy provides a bridge between blind instrumentation and surgery. By actually seeing the subgingival calculus and not just relying on tactile sense, hygienists can completely remove the bacteria-covered deposits and allow the infected pockets to heal. If surgery is indicated to access subgingival deposits, this technology provides access to the lesion for thorough scaling and root planing.

HT: What are the benefits to the patient?

MW: The benefits to the patient include a less traumatic procedure with less discomfort, faster healing time, no post-operative visits, and less gingival recession than after surgery. This is especially important in the anterior esthetic region. Patients accept the technology and advanced procedures even more quickly than the hygiene profession. Perioscopy sells itself. People are accustomed to having endoscopy procedures performed on other parts of the bodies; doing so in the mouth makes sense. The results are convincing for patients.

HT: Are there any uses besides subgingival debridement?

MW: There are multiple uses for Perioscopy. Hygienists use it for finding subgingival calculus, periodontists use it during surgery because of the magnification aspects, and restorative dentists find it helpful for identifying subgingival caries, defective margins, root fractures, and endodontic post perforations.

HT: How has Perioscopy changed your practice of dental hygiene?

MW: The dental endoscope allows me the opportunity to provide patients optimal dental hygiene care, not only with Perioscopy procedures, but also when I'm providing traditional dental hygiene care. I've improved my instrumentation skills by seeing what I'm doing with my instruments and also seeing what my instruments are not able to do, and figuring out new ways to get the surfaces clean.

HT: Were you surprised at what you found in non-responding pockets after you treated them blindly?

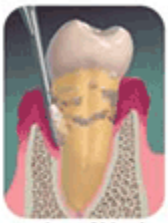
MW: Oh, yes! The root surfaces felt smooth to me, but with the endoscope I saw calculus deposits I couldn't even feel. Sometimes they were just tiny spots, almost like glitter on the surface, but it was enough to cause infection in the pocket wall just opposite. When I first began using the Perioscope, I saw a pattern to areas in the mouth, and often to areas near the CEJ or crown margins where I was missing calculus. Being able to see the root surface and connect that to what I was seeing in the tissue has increased my ability to interpret tactile stimuli—even when I'm not using the endoscope.

HT: Having worked blindly my whole career, I'm fascinated by what you've learned about periodontal disease by looking into the pockets. It makes sense that it's helped your clinical skills, but what about your understanding of the disease process?

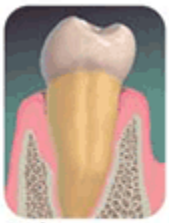
MW: As you well know, Trisha, sometimes there's a disconnect between what we learn from the research and how we apply that information to clinical situations. We know that periodontal disease is a bacterial infection that results in bone loss, but when we still see infection after doing our best to clean out a pocket, it's easy to shift over to immune response or think antibiotics are the answer. Using Perioscopy, I've learned first hand that calculus is the place where bacteria will be found in the pocket.

Removing all the calculus to achieve a completely clean root surface eliminates the source of bacteria and allows the tissue to heal and the pocket to close. It's really that simple. Periodontal pathogenesis is easy to understand when you can see the infection. When you can see the infection, you can treat it. I'm a visual learner, so seeing the calculus, seeing the tissue inflammation and

Perception after blind SRP



Reality of blind SRP



Making perception reality with Perioscopy

seeing the pockets close as a result of my treatment has been a fun and effective way for me to understand the disease process. That knowledge gives me a sense of satisfaction knowing I can provide excellent service for my patients.

HT: It definitely sounds like a great way to improve patient care. Does it help with patient education?

MW: The dental endoscope is a wonderful tool for patient education. My patients look at the screen while I'm evaluating the infected pockets and they see the actual diseased root surface and infected pocket wall. The best motivation is the healing we get. When one area heals, they want other areas treated. It's a great motivator and they become better at their oral hygiene procedures and also understand more thoroughly the reason for the procedure. Just as it's been good for me to see and understand, it's helpful for my patients to see and understand what gum disease is and what it will take to treat it.

"I can't imagine not having Perioscopy!

It's a dream come true to actually see what I'm doing in a periodontal pocket. When the fiberoptic light hits a piece of burnished calculus, the crystalline structure of the deposit causes it to sparkle like snow. It is absolutely amazing and I cannot imagine a more important milestone than this for the field of dental hygiene."

—Diane Brucato Thomas, RDH, EF; Hawaii

HT: I know the $14,995 purchase price of the Perioscope stops most hygienists in their tracks, but I know several hygienists who bought their own units and are very happy with the investment. As a matter of fact, I'm jealous and want to have this technology myself. How can I make this happen and still pay for it?

MW: I'm glad you asked, because so many hygienists would love to have this technology, yet don't feel they can afford it and are sure their dentist would never consider such an expensive purchase for them. I think hygiensts would be surprised to learn their dentists would be interested in this technology, if the hygienist explained how this technology would help the patients and be a good practice-building decision at the same time.

There are several ways to get your own Perioscope. You can buy the unit with financing from your bank, as several hygienists have, or DentalView offers financing. If you don't want to purchase, you can lease the system for $320 per month. Either way, each month's payment comes from incorporating only one Perioscopy procedure into your schedule each week. Actually, the first procedure usually covers the monthly payment, and the other procedures bring profit into the hygiene department. It might also be something two or three hygiensts or offices get together to buy and then share. If you want to provide the best care possible to your patients, you can find a creative way to purchase the technology to achieve that care.

HT: Three hundred-twenty dollars doesn't sound like much, considering I paid more just last week to have a minor repair on my car. It seems to me this would be great technology for students. Are any schools using the Perioscope?

MW: Yes, several schools are using this new technology with both typodonts and patients. First-year students can now visualize the curets on root surfaces, learning by seeing just what the blade can and cannot do. They see root anatomy as they learn instrumentation principles. When treating patients, the Perioscopy ends the debate between students and instructors about what they "feel" on a root surface. It also provides the visibility needed to treat non-responding areas. It's a great tool for students to begin learning instrumentation.

HT: I see endless possibilities for Perioscopy in research answering the many questions we have about which is the best power scaler and which is the best curet.

MW: That's happening already. Several studies have been completed showing that Perioscopy is more effective than blind instrumentation for treating periodontal disease, and now studies are underway to analyze the effectiveness of various instruments. The future of dental hygiene will be changed forever and improved greatly by the information we are able to gather with endoscopy. It's a great time to be a hygienist!

More About Mikelle Watson, RDH Clinical Specialist & Training Coordinator
Mikelle received her BS in Dental Hygiene from the University of Southern California and has practiced dental hygiene in both general and periodontal practices for 33 years. She is a member of the RDH Examining Committee for the California Dental Board, and was a full-time associate professor in the USC Department of Dental Hygiene for over seven years. Mikelle has been employed by DentalView, Inc. as a Clinical Specialist since 1999, providing in-office training and clinical support for DentalView customers. Additionally, Mikelle has lectured on the subject of Dental Endoscopy to numerous dental and dental hygiene associations.