



## Dental Surgical Operating Microscope: A Transformational Technology For The Dental Industry

Seeing is believing! This microscope was designed for success! The catch phrases keep coming as I try to describe the newest technologically-advanced surgical microscope, but the surest way of sharing my excitement is to ensure that dentists gain both an understanding as well as hands-on experience with the new Seiler Alpha Air Series microscope.

The field of dentistry has enjoyed massive success in recent years with new technological developments. Dentists now have access to state-of-the-art equipment specifically designed to deliver exceptional services to their patients. Early on in my career, I learned that in addition to a strong skill set and in-depth knowledge, high precision and quality-made dental supplies can take our work from made to pass to work made to last.

In my quest for the latest and greatest equipment, I purchased the Seiler Alpha Air Series microscope for my endodontic practice. It has proven to be one of my most successful dental equipment investments.

Dental operating microscopes were first popularized by Dr. Gary Carr in his root canal treatments for their effective visual enhancements. Leveraging Dr. Carr's success, prosthodontists have now begun to introduce the microscope to their specialty.

Understanding the microscope's specific beneficial utilities will further the use of the microscope throughout dentistry.

As an endodontist, increased precision correlates to higher treatment success rates. Endodontic literature is replete with evidence showing that locating every canal in a tooth is the cornerstone to clinical success. A primary contributing cause of unsuccessful endodontic treatment is the failure to locate and treat commonly missed canals. Therefore, it is important for all dentists performing root canal treatment to be educated on how to locate and treat potentially missed canals. I can go on and on about the importance and technique of shaping canals, on achieving patency, on various irrigation protocols, and on obturation techniques. However, the fact is that complete and thorough disinfection is the name of the game, and who are we fooling if we leave any stone unturned? The greatest clinical benefit of using a microscope begins with proper access and the ability to locate ALL main canals in the process, including MB2 in maxillary first molars (incidence of >90%) and lingual canals of lower anterior teeth (incidence of 40%). The microscopes ease of use will help accomplish this. In the end, dedicating oneself to this phase will ultimately facilitate the practitioner in every subsequent phase of the procedure, drastically improving long-term success rates of endodontic procedures.

So why don't more dentists and not all endodontists use the microscope?

The barrier to entry has traditionally been linked to high costs associated with first or second generation microscopes and in the difficulty of adapting to the fixed position necessary for maximizing use of the microscope. However, implementation of any technology requires taking that leap of faith and committing oneself to mastering the technology at hand. I began performing root canals and most dental procedures with a pair of 3.2X loupes and a loupe light, and I felt as if I was constantly fighting for better visual clarity. As my familiarity with the use of the microscope grew, I am now comfortable enough to leave my loupes to rust in a dark basement where they belong. I now use a powerful machine that allows me to visualize an operating field at up to 6x greater magnification and at 4x the brightness of what I previously used. Do I feel less strained? You bet I do. My eyes, back, and neck are rejoicing!

The icing on the cake for those fearful of adopting and becoming accustomed to this technology is that new models have been greatly improved! One of these new models, the Seiler Alpha Air Series microscope, has many exciting benefits.

These include:

- Improved ergonomic design: This design system was set to significantly improve operator positioning in many dental procedures, allowing for the reduction of operator fatigue and a reduction in muscular imbalances and pain.
- Improved visualization: With a dental microscope at your disposal, visualization during treatment becomes a stroll in the park. The optic elements of the microscope have become advanced with fine-tuned magnification changers that allow us to find minor aberrations in root anatomy. At the turn of a knob and with up to 20x magnification, various field of view options become available to allow for optimal viewing. There is also a fine focus that allows the practitioner to focus in a 150mm range without having to move an inch other than an easy adjustment of a fine focus knob. In addition, illumination is greatly improved at a remarkable output of 150k lux, thanks to its ultra-bright energy efficient LED system. This reduces visual strain associated with poor lighting conditions.

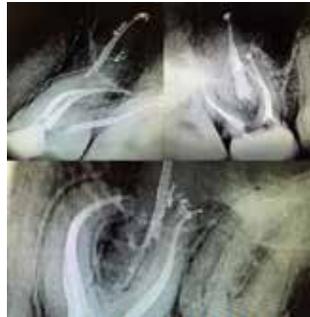
With these benefits come gains. When incorporating this microscope into your practice, treatment success rates will greatly improve as you no longer need to make inferences during treatment, but rather, treat with more clarity and precision. This undoubtedly boosts practitioners' confidence as successful treatments can be repeatedly achieved. In addition, the patient experience will be greatly improved, leaving us with healthier and happier patients, which is one of the cardinal goals of our profession.

With dental surgical microscopes, treatment limitations are reduced as we have a reliable enhanced visualization tool which gives us details we may have missed during examination. This includes more precise knowledge of the coronal and radicular pulp of a tooth and finding aberrations that go sharply against the norm of everyday treatment. While it's easy to overlook minor details, for example, an MB2 orifice that's hiding under a

tiny shelf of dentin, a dental surgical microscope doesn't miss a thing. Why not perform the procedure correctly the first time? Why not avoid having your patient return for a retreatment because of a previously failed root canal? With a dental microscope, you put yourself in the position of being able to achieve true success and getting it right the first time. Wouldn't you love that?

Today I can boldly say that since I began using dental surgical microscopes, I've enjoyed countless successful treatment outcomes. These increased success rates have also earned me new referrals from highly satisfied patients. If you want to be successful, you can't go wrong using this technology. It is your best bet to succeed in the demanding industry we operate in today!

I tried to make my experience as palpable to the reader as possible, but there's no replacement for an actual experience. Talking about a fine-tuned sports car will never fully replace the exhilarating feel of being behind the wheel. I invite you to try the Seiler microscope or talk to your local sales representative about giving this fine piece of machinery a test drive.



Maxillary molar with 4 canals



Conservative Endodontic Access

**About the Author:**

Alen C. Jakob, DMD, is a native of Brooklyn, New York. Dr. Jakob graduated from the Case School of Dental Medicine in Cleveland, Ohio in 2012. During his time there, Dr. Jakob became intrigued by the history, complexities, and art that is Endodontics. Dr. Jakob went on to become president of the Endodontics Club at Case Western and was awarded with the prestigious student achievement award from the American Association of Endodontists. He then went on to directly enroll at Lutheran Medical Center's 2-year residency program in Endodontics following dental school. Dr. Jakob has been in private practice since 2014 and opened Midtown Root Canal- Endodontic Specialists in 2016, a premier endodontic practice in NYC that is committed to providing a broad range of surgical and non-surgical endodontic procedures to the NY-NJ metro area. Dr. Alen C. Jakob is a specialist member of the American Association of Endodontists, American Dental Association, and Alpha Omega Dental Fraternity.

