



## Technologies that alter the way we practice

While many technologies have made the practice of dentistry simpler and more efficient, most have not actually altered the way in which we practice.

When I considered which, if any, technologies completely changed the way I practice, only one came to mind: dental magnification.

Dental magnification has made a significant impact on the quality of care I provide, and has made the practice environment safer and healthier. For the clinician about to begin using dental magnification, I would strongly suggest purchasing dental loupes with a magnification range from 2.5 to 2.75 (due to lack of standardization among manufacturers one should not be impressed merely by the number stated by the manufacturer). Although possible, it is more challenging to start at a higher magnification. The 2 variables to which one has to adjust are the depth of field and the size of the viewable field, with the former presenting the greater challenge. The decrease in the depth of field requires adjustments in body movement. The practitioner cannot move without restriction because the loupes have a limited depth of field. Since low-magnification loupes provide the largest depth of field, they are the easiest to adjust to, thus serving as an excellent entry point.

One must be determined to adjust to the new restriction in the depth of field. Some practitioners may feel slightly dizzy at the beginning, but the worst thing they can do is give up, tilt their head down, and start looking "over the lens," turning the loupes into an expensive pair of protective eyewear. The 2 best pieces of advice I can offer are: (1) schedule simple procedures for the first week you start using loupes; the combination of complex procedures and the newly restricted depth of field may unnecessarily increase the level of difficulty and frustration; and (2) securely tighten the headband to prevent movements of the loupes. Micromovements of the loupes will increase the initial dizziness you may experience.

The determined practitioner will quickly realize that he or she has gained a new perspective. First, all objects in the viewable field look larger and clearer—a true eye-opening experience. Second, in

order to evaluate objects in the viewable field there is no longer a need to work in such close proximity to the patient; the common posture in which the tip of your nose is touching the patient's tongue is now unnecessary. The undesirable yet common experience of a patient's saliva and blood splattering all over your forehead during the procedure is no longer a clinical reality. The loupes provide you with a quality view from a longer distance, allowing you to practice in a much more ergonomic posture.

Within a short period of time your loupes become a natural extension of your body. However, do not get too comfortable; if you love your low-magnification loupes, the higher magnification will take the positive experience 1 large step further. You should be able to move to a higher magnification after about 1 year. Usually, magnification higher than 3 requires the use of a prismatic system that is more complex (vs the Galilean system used in low magnification). This is where one should spend more time comparing the various brands. The desirable magnification ranges from 3.5 to 5 (again, do not be impressed by the number stated by the manufacturer), and one should search for loupes that combine excellent optics and good ergonomic design. High-end optical components and good ergonomic design will reduce eyestrain and general fatigue. Keep in mind, however, that higher magnification will further limit your depth of field and the size of the viewable field. It requires the same amount of determination as when you first started; the difference is that now you know the dividends your efforts will pay in the end. Your low-magnification loupes can now be fitted and transferred to your hygienist, assistant, or young associate. And this is not the end of the road; the microscope is rapidly becoming a useful tool in a general practice setup.

Considering the small investment required to take you from straining your eyes, working in unhygienic, intimate proximity to the patient's face—at best being infected with every seasonal disease—to seeing better with less eye strain, improving posture, and reducing the risk of infection, the move to dental magnification makes clear sense.

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