To see, or not to see?

A recent article in the *Journal of Dental Education*[1] concluded that requiring students to purchase magnification devices may not be justified. This conclusion was based on the finding that 2 groups of third-year dental students (those who used magnification in their daily work in a pediatric dentistry clinic and those who did not use magnification) produced preparations of comparable quality.

A visit to the exhibition hall of any major dental meeting will show several booths demonstrating and marketing various clinical magnification systems. The choice range is tremendous, from clip-on magnification loupes to operating microscopes. The price range is equally wide, from a few dollars to thousands of dollars.

A literature review will confirm that there are few studies on the matter, and those few are mixed in their quality. A few have studied objective criteria and can be evaluated statistically, but most are anecdotal personal preferences. Like so much of dentistry, much of what we do in our practices is based more on personal preference and bias than on evidence-based science.

The claims made in support of using magnification can be grouped into 2 general areas: quality and comfort. The ubiquitous claim of superiority made by every manufacturer/sales representative is a given and must be accepted as a necessary part of the background noise of any decision-making process.

The quality issue is the better documented and includes studies showing improved performance (or lack of it as in the study cited above), improved ability to evaluate intraoperatively, and improved intraoperative ergonomics.

The comfort issue overlaps the intraoperative evaluation and ergonomic aspects and tends to be the more anecdotal area of justification for use of magnification in clinical practice. Most clinicians simply use magnification because they have tried it and they like it. Being "closer" to the operating field provides a better sense of control and arguably, therefore, a better outcome. Caries, margins, pulpal proximity, enamel cracks and crazes, adjacent nicks and scratches, calculus, overhangs, and dozens of other details loom in a magnified visual field.

Perhaps the most important aspect of the matter is the potential correction of aging effects.[2] While the literature is thin, one may consider it axiomatic that we cannot attend to that which we cannot see. When did you last go bird watching, hunting, or hiking without a pair of binoculars?

So much for the literature. Does your editor have a personal opinion? Of course he does. It is an anecdotal personal preference, but that does not make it less valid for me.

I have used magnification for years and cannot imagine practicing without it. I have always worn glasses to correct astigmatism, and as I grew older, my near-sighted vision worsened. For the first few years, inexpensive magnifying loupes were satisfactory adjuncts. The subsequent move to surgical telescopes, with fixed convergence angles, adjustable interpupillary distance (multiple users), a wider field of vision, increased depth of field, and mountable spotlight, was just a matter of time.

So what conclusion can be made? To see, or not to see? In the end, each reader will have to make a personal decision based on his or her own need/benefit formula. Even if you decide not to use a magnification system, at least wear protective lenses. No matter how good your vision, eyes and flying objects (including bacterial and viral aerosols) don't mix very well!

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References

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