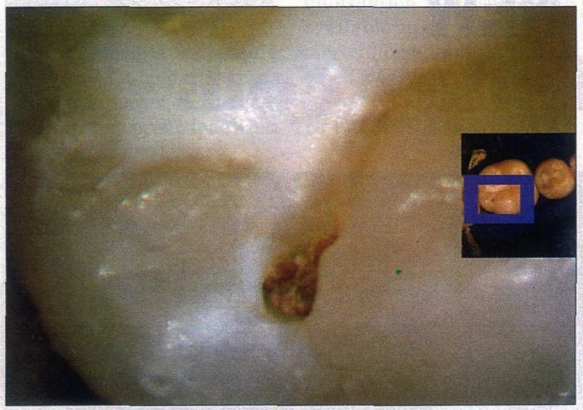
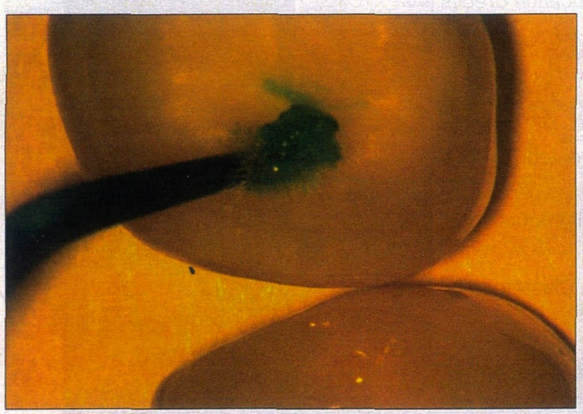
A Glance at What to Look for When Purchasing a New Microscope

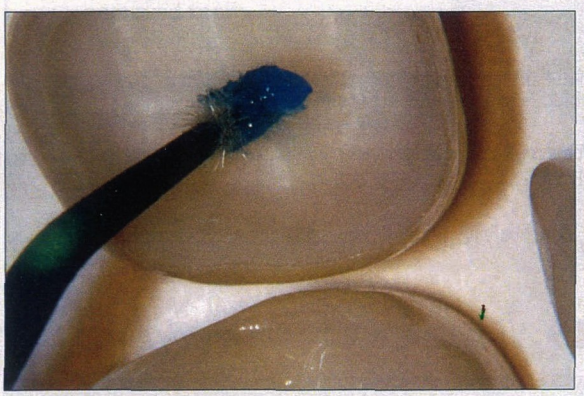
Dr. David J. Clark, founder of the Academy of Microscope Enhanced Dentistry

Support, training, and continuing education are as important as any mechanical feature of the microscope.



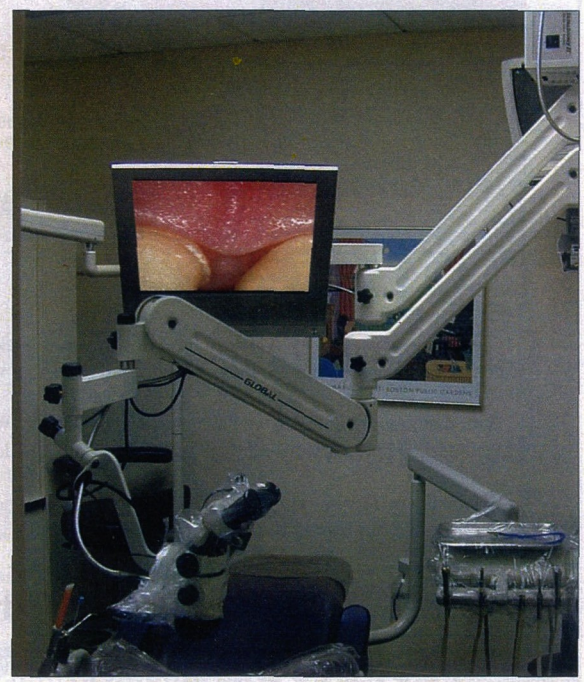
This image shows a low magnification and 24x magnification of a typical leaking sealant. The ability to demonstrate 'live time' clinical excellence via a live video feed is one of the microscopes most important features.





These photographs shot at 8x demonstrate the orange filter that allows effortless placement of light sensitive materials such as composite–without worries of premature polymerization.

- Articulating (inclinable/reclinable) binoculars are a must–without them it is difficult to maintain proper posture. The good posture and healthy back and neck of the clinician are some of the most important advantages of the microscope.
- The objective lens decides how far the microscope will be from your patient. For example, a 200 mm lens puts you very close with the advantages of brighter light and higher net magnification. The disadvantages are more potential splatter on the lens and in my case; I periodically have problems with the distal end of the handpiece running into my microscopes.
- Restorative dentists and periodontists need a step of magnification at the bottom end of 2x or 2.5x. The greater depth of field allows visualization of an entire quadrant without focusing problems. This way the clinician can minimize leaving the microscope to go to loupes.
- High-end magnification needs to go to 13x to 16x as a minimum. Diagnosis of early incomplete tooth fracture, finding calcified canal systems, microplastic periodontal surgeries, and elegant aesthetic dentistry among other areas demands it. These higher levels of 16x to 40x are more useful in the beginning for brief moments of observation–the bulk of operation is done at lower magnification.
- An orange filter that allows extended working time for light sensitive materials such as composites has become a 'must have.'
- Consider options to use a microscope in 2 operatories, but rolling a microscope back and forth will eventually become too cumbersome for practical use in most offices. A ceiling track or similar device is more useful. Most microscope-centered practices end up with several microscopes.
- A beam splitter with a feed to a TV or monitor is a must. Unless your patients and staff see the benefits of microscope accuracy, the microscope will not make the same dramatic effect on the financial bottom line as it will on the level of clinical excellence. Some manufacturers are now integrating the monitor (LCD or Plasma) into the frame.
- Many microscopes have been installed out of "plumb" which allows them to drift. This is absolutely unacceptable and is easy to correct. Quality of the microscope and careful installation to avoid drifting and vibration are key to utilization. Compromise here will make long-term, widespread use difficult and frustrating. An out-of-balance fan on the HVAC unit on the roof, for example, can create microtremors that are a macro problem for the microscope that is improperly braced.



The placement of the LCD screen can now be integrated with the microscope mounting system.

As I visit offices around the country and the world, I am often disappointed at the cumbersome and almost unusable state of the microscopes. Microscope Enhanced Dentistry should become nearly effortless and will be a joyful experience with careful attention to these details. Accept nothing less!

Ask the experts: *e-mail any questions or requests for advice to drclark@microscope-dentistry.com, and your questions will be forwarded to our panel of leading authorities from all specialties. Literature and support are available at microscopedentistry.com and lifetimedentistry.net.*