The Importance of Documentation in Micro Dentistry
Nicholas Gibb discusses the benefits of the dental operating microscope in recording treatment plans

With the wide acceptance of the dental operating microscope in endodontics and other dental specialties the use of routine documentation is now possible and desirable. Documentation is the recording of images and data in different formats.

Why incorporate Documentation into Micro Dentistry?
This is important for many reasons:-

• Accurate recording of patient data, anatomy, conditions and results
• Documentation provides material for analysis, review of cases and resultant improvement of techniques
• Documentation provides images for education and presentation
• Medical/legal requirements
• To provide information for nursing staff and patient education

Types of Documentation
Documentation can be provided through the microscope or externally. Without the dental microscope Intraoral Cameras provide excellent images, as does photography, and now it is possible to have continuous hands free Intraoral Video documentation via a light mounted Micro Video Camera.

With the Dental Operating Microscope the choice of documentation types is even wider; multiple types of digital photography, digital SLR photography, video documentation, combined video and digital stills photography and assistant microscopes.

Which types of combinations to use
Determine your criteria (patient records, presentations, education, staff participation, referral information, legal).

How to achieve quality images
Through the dental microscope a beamsplitter is required. With Global, different beamsplitter configurations are available depending on imaging required.

A camera mount is required to suit camera of choice (dig-
A camera is required, multiple types, makes and specifications are available with widely varying prices. One should choose a system that meets all criteria, resolution, ease of use features, compatibility and cost. Once chosen Global can provide adapters for most cameras.

What do you want to achieve?

1. Routine continuous video/images for nursing staff and patients.- Use a 95/5 beamsplitter, this provides increased camera depth of focus.

A conventional C-Mount video adapter tube and C-Mount camera will provide the required results.

Continuous video images enable the dental nurse to participate in and anticipate the operators requirements, the monitor must be positioned in the nurses line of sight.

2. A binocular assistant scope also enables full participation by the nurse. If this option is chosen a 50/50 beamsplitter should be used.

3. Capture of specific still images. For convenience use a digital stills camera of choice.

A 50/50 beamsplitter is required plus a digital camera mount, (X-Mount) with adapter to suit camera model. These cameras can be adjusted (eg zoom) independently of microscope; high quality low cost cameras are available.

4. Combination (Video & Digital stills) provides very flexible documentation. Use a 50/50 beamsplitter, X-Mount adapter and the appropriate camera mount.

5. Digital SLR with a 50/50 beamsplitter and camera mount.

All these options can be added to the Global Dental Microscope with ease, this upgrade facility is important as operators requirements may vary with time. These instant microscope upgrades are an important Global facility not found on all microscopes. Camera specifications are continuously improving hence the need for upgrade compatibility.

Many operators use the same camera as they are comfortable with unit and results and do not see the need to upgrade. This demonstrates that documentation should follow the operators' requirements and skills.

The global perspective on documentation

Digital Documentation

SLR X-Mount & Digital X-Mount Adapters

Automatic Framing – Capture the exact replica of what you see.

“Framing” is automatic. Images are recorded with virtually no interruption to the treatment.

Easy Upgrade – Modular design allows for upgrading your

camera at little or no cost to change the adapter.

Efficient Archiving – Entire procedures can be electronically documented; allowing for efficient archiving in patient records.

No Blurring – The wide optical path of the X-Mount and SLR Mount allow for faster shutter speeds, thus reducing blurring.

Video Documentation

Communication/Archive – Record the procedure, let the patient watch the procedure, communicate clearly what treatment is needed and why.

Capture the entire procedure for communicating to colleagues, referring dentists, the patient’s parent, your study club, and insurance companies.

Educate and persuade your patient

The greatest benefit: gain patient acceptance of treatment. Those cracks that cannot be seen with the naked eye can easily be seen through the microscope and then shown to the patient via the camera image.

Superior to Intraoral Cameras – Images are magnified optically, not electronically; making the resolution of the microscope’s video image far superior to traditional Intraoral cameras. Also, unlike Intraoral cameras, the microscope/video camera allows you to document the actual procedure.

More Light – The patented Virtual Beam splitter provides a clear image to the video camera while removing less than five per cent of the light from the user. Other beam splitters rob the user of 20 per cent or more of the light.

Greater Depth of Field – The Virtual Beam splitter also provides incredible depth of field for the video image.

Flexibility - Camera can be placed on either side of the microscope for user convenience.

About the author

Since 1997 Nathaniel James Robert Gibb has been the owner and Practice Principal of a large modern practice in Leamington Spa which provides general dental care to the local community. Since entering a “joint venture” with Pogges Limited in 1998 he has developed a special interest in treating patients with Sedation which includes both restorative work and oral surgery. In 2002, he was awarded a Diploma with Distinction in Conscious Sedation for Dentistry from Guy’s Dental Hospital, and followed this up in 2005 with a Diploma in Post Graduate Dental Studies from Dental University. He has been a vocational trainer for the past seven years and have lectured to the trainees each year on subjects such as treatment planning, anxiety management, sedation and oral surgery procedures as well as monitoring my own VISP on a day to day basis. He is an employed as a Practice Advisor for Solihull CT, NHS Warrickshire, and am an elected member of Warwickshire Local Dental Committee.