

# Dental photography: storage, imaging and presentation

Phil Wander presents the fifth article in this series, looking this month at how software can aid the clinician and patient in preparing treatment plans

**G**ONE are the days when a roll of film gave you a maximum of 36 exposures – none of which could be viewed before developing!

With the advent of digital photography, capturing images has never been easier and hundreds of photographs can be stored on the memory card at one time (an 8GB card can store over 1,000 high-resolution images). How do you deal with such a large quantity of information?

Imaging management begins with transferring your images from camera to computer. This can be done by means of a USB cable, from camera to computer; via a built-in slot in the computer for the memory card; or by means of an external card reader. Recently introduced is the Eye-Fi memory card, which wirelessly transfers your images to the computer.

Most computers will have a built-in program, such as the software which comes with

Windows Vista and Apple Mac OS X, which recognises pictures automatically and enables you to store them in folders and in date order. However, this can be both laborious and time-consuming, and there is available specialised software to simplify this process, such as Adobe Photoshop.

Tailor-made dental software which also archives your digital x-ray images and gives each patient an individual folder, as well as storing other vital patient information, also exists. This includes Kodak's PracticeWorks Practice Management and cosmetic imaging software, ([www.practiceworks.co.uk](http://www.practiceworks.co.uk)) and Dürr VistaCam Digital Diagnostics and Archiving Software DBSWIN (e-mail [info@duerruk.com](mailto:info@duerruk.com)). These systems offer various ways of depicting the course of treatment and exchanging data, both of intra-oral pictures and digital radiographs.

Setting up your images into file systems and cataloguing them will save you hours later.

and contrast, "sharpening", resizing pictures (for instance to make them suitable for e-mailing) and manipulating photographs in general are readily available.

Many programs go way beyond basic photo adjustment, and have endless possibilities for advanced image enhancement.

The ability to view accurately the images you have worked so hard to capture is essential, and using imaging enhancement programs in the "digital darkroom" will produce superb results.

## Printing

There are many printers that will print your photographs directly from the memory card – it is not even necessary to have a computer to make these prints. Many high street stores have the facility to produce your prints economically. It is also possible to have your prints made into "photo books" and albums (such as at [www.fotobook.co.uk](http://www.fotobook.co.uk) and [www.photobox.co.uk](http://www.photobox.co.uk)).

Choosing your own printer depends on a number of factors. For instance, consider the size of print you require – small 6x4 photos or larger A4 prints, for example – and the level of quality of the prints required (e.g. are they for display, or for practice use?)

Many fine and economical printers are on the market – advice can be sought from high street outlets and computer stores – and high-quality surface-coated printing papers are available, both in glossy and matt formats.



*Cropped and magnified*

## Cosmetic imaging

Unlike study casts and other diagnostic tools, computer imaging graphically illustrates proposed treatment options to each patient in a highly personalised form, using digital pictures as before and after scenarios.

Cosmetic imaging software allows both the patient and the practitioner to better visualise the appearance and functional benefits of proposed treatment recommendations.

Guess work is transformed into predictable results which patients can see and readily accept. However, it must be stressed to the patient that these are computer simulations only, and may not accurately represent the final result of the dentistry.

Imaging can help your patients visualise, and accept your treatment plans, from simulating a simple tooth whitening procedure to a full mouth rehabilitation.

One of the most exciting and valuable aspects of computer imaging is to promote pro-active patient involvement in treatment



## Image enhancement and manipulation

Varying degrees of alteration and enhancement of an image can be accomplished by using the programs mentioned above. Features such as adding text, adjusting colour, cropping, aligning, rotating, mirroring, removing "red eye", changing brightness

*A grid collage can show all aspects of a case*

planning, and encourage them to express their preferences in discussing alternative treatment plans – “offer choices and create feedback”.

Most importantly, you improve your communication skills and learn about patient expectation (which can often be unrealistic!). However, in many cases a dental simulation will give a reasonable initial guideline towards achieving a satisfactory result.

It takes time to do the imaging yourself, and in a busy practice it is probably more acceptable to outsource the images to one of the commercial companies, such as [www.smilevision.net](http://www.smilevision.net).

A dentist or imaging specialist can simulate such procedures as bleaching, veneering, crown and bridge work, crown lengthening, cosmetic contouring, orthodontics or periodontal soft tissue changes.

The patient can be given printed copies or e-mailed the images. Usually a good quality portrait is submitted for this, with the patient giving a full smile: this gives the maximum benefit from these imaging procedures.

Cosmetic imaging can be a more predictable way to build confidence and trust before even starting treatment, using a visual case presentation.

### Presentation: the digital dental consultation

More and more dental practices are utilising a small area (a “smile studio”, as shown below) to take pre-operative consultation photographs prior to the initial intra-oral examination.

These simple photographs, such as a smile and portrait, are taken by a member of the dental team, and then discussed with

the patient prior to treatment.

A “smile design and analysis” considers lip/tooth relationships, alignment, arrangement, colour

***Cosmetic imaging can be a more predictable way to build confidence and trust before even starting treatment, using a visual case presentation.***

of teeth and the buccal corridor, and establishes a rapport with the patient by showing the photographs and asking, “How

do you feel about your smile?”

These photographs are then quickly “burned” onto a CD and taken into the treatment room,

where the dentist can discuss the case presentation with the patient on a large computer screen. The disc is then given to

the patient to take home.

There are programs available to add music and further information, including radiographs, in a “My Smile” PowerPoint format, so that the patient can give the images further consideration at home.

High-definition televisions will show presentations in stunning detail, while digital photo frames can provide a more personal display. Digital projectors have

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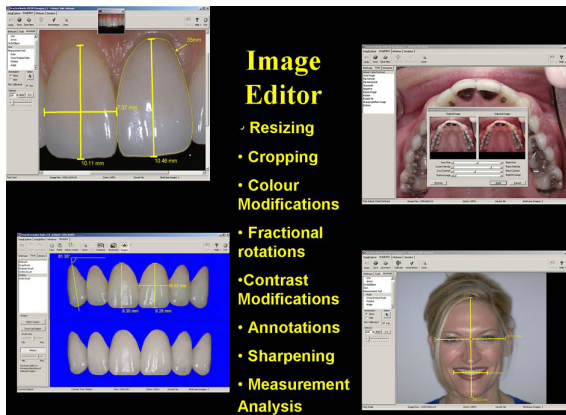
come down in price, and battery-powered projectors which are the size of a mobile phone have recently come to the market, allowing you to give “slide shows” projected on any nearby wall.

In instances where patients are not ready to commit to treatment, prints or images can be sent to them with

an appropriate note, giving them time to mull over their proposed smile makeover in private, and consult with family and friends without outside pressure.

This non-confrontational

approach of using images is an easy way for dentists to offer cosmetic dentistry to their patients. The investment required is a digital camera and Internet access.



*Advanced image manipulation is made possible with specialised software*  
[Photo courtesy of PracticeWorks]

Dr Philip Wander has over 40 years' experience in both NHS and private practices in Manchester. He co-authored with Dr Peter Gordon the *BDJ* textbook *Dental Photography*, and has written numerous articles and lectured extensively on the topic. He is currently giving a series of hands-on courses on “Shoot your patients to build your practice”. For further information, contact Philip at [info@dentalphotos.co.uk](mailto:info@dentalphotos.co.uk).

