## Digital Photography Made Easy

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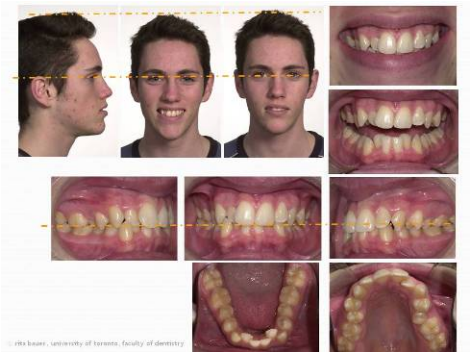
The digital camera is an invaluable tool for medical/legal documentation, treatment planning, lab communication and marketing. The instant feed-back can be a key factor in increasing patient understanding and acceptance of the treatment plan.



**Standardized Clinical Views:** All views have to be taken from the same distance and with the same settings. This is achieved by using the **SLR camera** in **Manual Focus,** presetting the distance and moving back and forth until the image is sharp.

To standardize the **high end amateur model**, attach a **distance guide** to the camera once the **zoom level and working distance** has been established.

**Recommended Camera Selection – October 2009**

All SLR cameras will give excellent results for dental photography starting with the entry level cameras and can be upgraded to the high end models. The most popular manufacturers are Canon and Nikon, but Sony and Pentax also manufacture excellent systems.
-Canon Rebel Xsi or X1i with the Canon 100mm Macro lens and the Canon MR14EX Ring Flash
-Nikon D90 with the 105mm Sigma Macro lens and the Dine Mini Ring/Point Flash
-Nikon D300 with the Nikon 105mm VR Macro lens and the R1C1 Dual Flash System
Since these camera systems are fairly heavy, a **hand strap** is advisable.
There are a number of distributors that specialize in dental photography equipment. It is advisable to purchase through them, since they are familiar with this very specialized form of close up photography and can help with any questions and problems.
Canada: Henrys, Commercial Division, Kodak Dental Systems ( Orthotrac)
USA: Norman Cameras, Clinipix ,Dine Corporation, Photomed, Kodak Dental Systems (Orthotrac)

**Exposure Settings for SLR cameras: Aperture setting:** f 32 for full mouth Intra-oral views,
f-32 for close ups, f 8 for facial views.
**Shutterspeed** is set according to the flash synchronized speed for each camera. 1/200 sec for Canon, 1/60 sec for Nikon.

Some **high end amateur cameras** have the ability to capture undistorted clinical views when following exact set up instructions. This is achieved if a camera can focus in Macro and the zoom is set to approx. 100mm
Nikon Coolpix P90 under $ 450
Canon G10 or G11 under $ 550
Can be adapted with close up attachment and Canon Ring Flash ( additional $ 600.-)
Very specific set up instructions have to be followed, otherwise distortion and unwanted shadows will result. Set up varies with

each camera model. Some instruction manuals are available from Rita Bauer
Nikon Coolpix P90, Sony Cybershot DSC H1,H2,H5,- Fuji Finepix S 2000, S700, S7000, S602, Olympus SP570

**Metz Ring Flash** - $ under 400.- : great for Nikon SLR cameras, but will work with any high end amateur camera that has a flip up flash, even with Nikon Coolpix P90 –
**Expo Disk:** www.expodisc.com to fine tune your white balance – available from camera stores

**Resolution Setting:**
Large file sizes require a lot of memory on your computer. Set the resolution to the size you require for your documentation. The File Size for a 4x6 print or a full page projected image is 1280x960 (Small Resolution setting on your camera, choose a fine compression)
The usual file format used is .jpg. However if you are doing the AACD accreditation you are required to shoot in RAW format. If you are preparing material for this purpose, I suggest you use RAW&Large. While you will use a lot of memory space, it will allow you to see your images immediately without having to process the RAW image.


•Small resolution: 4x6 (postcard size)
•Medium resolution: 8x10 print
•Large resolution: 16x20 print

•Powerpoint insert requirements:
•1 Meg, same as a 4x6 print

**File Format:**
**.jpg, .tiff, .RAW**


.jpg is a compressed file, used by all cameras unless set differently

.tiff = tagged interface file format is an uncompressed file used by graphic artist 4x larger file size than .jpg

RAW Files: unprocessed format, special software requirement to convert images 10x larger file size than .jpg

RAW is the setting for Academy of Cosmetic Dentistry Accreditation requirements

**Accessories for Dental Views:** Available from **Henrys Cameras, smilesupplies@hotmail.com, Henry Schein,**
It is vital that the ideal retractors and mirrors are used to get the best retraction and clearest views. My recommendations are based on testing of all available accessories for best image quality and price:

**Retractors:** Purchase the SMALL double ended retractors. Large retractors are too big for most mouths and will not allow for good lateral retracted views. Available in clear plastic and brushed stainless steel.
Retractors are placed in the mouth and the patient holds them around the curved end.

**Mirrors:** Recommended are the Riofoto occlusal mirrors. The short mirrors are too difficult to handle and too much pressure has to be exerted when holding them in the patients mouth. The thickness of the mirror is comfortable for the patient and thinner mirrors can break.
Xlong Palatal 4250-971
Buccal 4250-986
Berger Mirror

**Dental Mirror Heater**: **OHMS inc., http://www.ohm-s.com/dental.l**

**1-416-762-7946** Part: DMH-001

**Photography of Plaster Casts:**

Use black velvet as background for light plaster casts, light background and a diffuser for metal . Using a Ring Flash will give a very flat, one dimensional result. To achieve a three dimensional look, use two goose neck desk lamps and position them to get the right amount of detail. If using incandescent lights, change the White Balance in your camera to incandescent (light bulb symbol). This will eliminate the yellow cast of the incandescent light. Make sure you change your White Balance once you are finished.
**True Daylight Fluorescent light bulbs** do not require WB adjustment (same as flash)
Available from Professional Camera Stores

**Triview Mirror Stand:** shows 3 views of the plaster cast in the same shot
**available from [www.maselortho.com](http://www.maselortho.com) 1-800 423 8227**

## Consent to Dental Photography:

Name of Patient:
In connection with dental services, which I am receiving from (insert name of dentist), I agree and consent to allow the photographs taken before, during, and after completion of my dental treatments to be used for dental records, research, education, public relations, patient counseling or other purposes.
I further agree and consent that the photographs relating to my dental care may be published and re-published, either separately or in connection with each other in dental photo albums, professional journals, or dental books.
Date:
Patients Signature: _____
Witnessed by: _____

**Quick and Easy Case Presentation in PowerPoint:**

- ☐ Insert
- ☐ Picture
  - ■ New Photo Album
- ☐ Insert Picture from: From File/Disk
  - ■ Select images ( ctrl A = select all images in file)
  - ■ Insert
- ☐ Create
  - ☐ Go into Slide Show Mode-
  - ☐ To highlight some of the areas, right click, Pointer Options, select Felt tip Pen – mark the area by holding the left mouse button down

Press Esc – to exit the Slide show mode, at this point it will ask if you want to keep annotations, Press yes

- ☐ **To print a handout** –
- ☐ File – Print- Print what: handout – 6 per page