Photography Workshop for Accreditation Documentation

- Today we are going to talk about clinical photography and the AACD photo series
- Photography allows us to give and receive visual feedback
- Whether you are at the beginning or the height of your career, your images will allow you to see things from a whole new perspective
- Today we walk through the steps of taking images on patients to submitting them for accreditation
- When you are done you will have the foundation for taking images on your own patients and the resources for places to go for more information

Photography Workshop for Accreditation Documentation

Dr. Brett B Magnuson
MDentalDesign.com

What will you learn today?

- Reasons for Taking Pictures
- Some Photography Basics
- Equipment Options
- Software
- AACD Photo Series
- Common Errors
- Additional Photo Documentation
- Candidate/Mentor Communication
- Necessary Steps in the submission process

Photography Workshop for Accreditation Documentation

- Today we are going to talk about clinical photography and the AACD photo series
- Photography allows us to give and receive visual feedback
- Whether you are at the beginning or the height of your career, your images will allow you to see things from a whole new perspective
- Today you will have a chance to use cameras and practice shooting images with partners
- When you are done you will have the foundation for taking images on your own patients and the resources for places to go for more information

Reasons for Taking Pictures

- Treatment Planning/ Advanced Education
- Case Documentation/ Archival Records
- Legal Proof
- Lecturing, Publication, Study Groups

Marketing

Self Evaluation

Photo Galleries of Your Own Work

Laboratory & Specialist Communication

Photography

-photo ------ light

-graphy ------ writing

Exposure (To Light)

- Lens Aperture (f-stop)
  - –Amount of Light coming thru opening of lens
- Shutter Speed
  - –Time of exposure to Light
- ISO
  - –Sensitivity (speed) of film or CCD

Shutter Speed

- Regulates how long the film or sensor is exposed to light coming through the lens.

Exposure

- Photographers set their exposure using a combination of shutter speeds and f/stops to get the correct amount of light on the film or sensor.

Shutter Speed

Camera Markings	True Geometric Series
1 second	1 second
1/2	1/2
1/4	1/4
1/8	1/8
1/15	1/16
1/30	1/32
1/60	1/64
1/125	1/128
1/250	1/256
1/500	1/512
1/1,000	1/1,024

- As Speed is increased one stop the amount of light reaching the film or sensor is halved.

Exposure

- For any given film speed and lighting combination there is one correct amount of light to properly expose the film or sensor.
- This amount of light can be achieved with many different combinations of f/stops and shutter speeds.

Shutter Speed

- Dental Photography- Set speed to 1/60 – 1/250 sec to sync with flash. (Camera Specific)
- Once set there is no need to change

f-stops

- A 35mm lens set to f/11, as indicated by the white dot above the f-stop scale on the aperture ring

f-stop

The f/stop is a ratio between the **diameter** of the aperture in the lens and the **focal length** of the lens.

$$\text{f-stop} = \frac{\textbf{focal length of lens}}{\textbf{diameter of the lens (aperture)}}$$

f-stops

A digital camera set to f/3.5

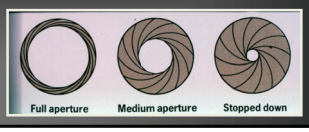
f/32

f-stop

- Lower f-stop numbers (f/2.8) widen the aperture and allow more light to get to the film or sensor.
- Higher f-stop numbers (f/32) limit the amount of light by making the camera's aperture smaller

f-stop (Aperture)

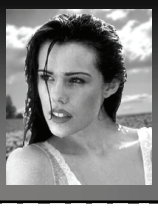
Aperture regulates how much light is allowed through the lens by varying the area of the hole the light comes through.



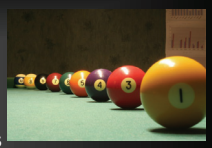
f-stop

- As the aperture is opened up by one stop, the amount of light reaching the film or CCD is doubled.
- Dental Photography lighting and depth of field will be controlled with f-stops (aperture)

Depth of Field



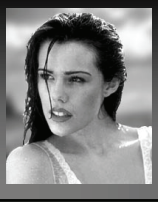
Smaller aperture (higher f-stop) openings keep a larger part of the image in sharp focus



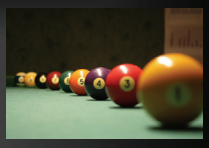
Equipment Options

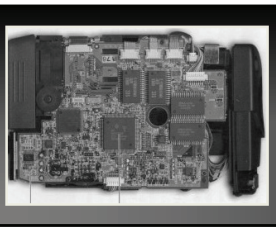
- Retractors
- Cameras & Flash
- Mirrors
- Computers
- Contrasters
- Card Readers
- Memory Cards
- External Hard Drives

Depth of Field



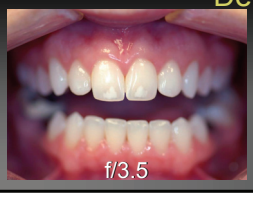
Larger aperture openings (lower f-stops) will keep the subject or focal point pin-sharp while the rest of the image remains blurred

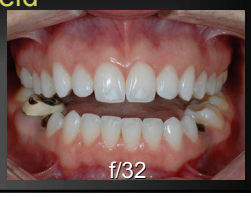




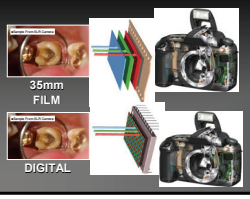
A Digital Camera is a Computer

Depth of Field

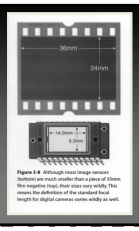




How A Camera Captures an Image



- No Processing Done In Camera. Send It Out For Processing!
- RAW Data Is NOT Processed!
- JPG Pictures ARE Processed.

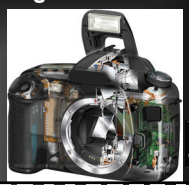


Film Vs Digital

Film responds Chemically
(crystals of light sensitive silver halides)

Image sensor responds electrically
(silicone grid of electrodes)

Let's Take A Closer Look At Digital Cameras



Sensors

CCD ---- Charge-coupled device

CMOS – Complementary metal-oxide semiconductor

Cameras Types

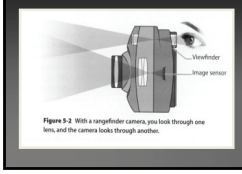


Figure 5-2 With a rangefinder camera, you look through one lens, and the camera looks through another.

Point &Shoot (Rangefinder)

Single Lens Reflex (Through the Lens)

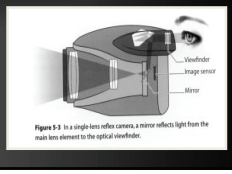


Figure 5-3 In a single-lens reflex camera, a mirror reflects light from the main lens element to the optical viewfinder.

Each Square=

1 *bit* of information

Different pixels capture

Red, Green, Blue light

Each square is a *pixel*

(picture element)

Sensors

Cameras Types

- Point and Shoot cameras with diffusers are not recommended for Accreditation photographic documentation
  - ·Small capture chips and internal firmware capture images that are visibly degraded
  - ·Lack ability to control exposure and depth of field during macro image capture

Cameras Types

A Single Lens Reflex Digital Camera with a macro lens capable of manual focus and selectable magnification ratio with a lens mounted flash is recommended

Canon On/Off

SLR Cameras

Nikon D200 (10 mega pixel)
$3299

Nikon D70 (6 mega pixel)
$2899

Nikon D-50 (6 Mega Pixel)
$2499

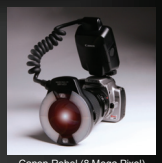
Intra Oral Images

- Set the Dial to **Av** for Intra Oral Images (30 inches and in)

SLR Cameras

Canon 5-D (12 Mega Pixel)
$4599 Full Frame

Canon 20-D (8 Mega Pixel)
$2799



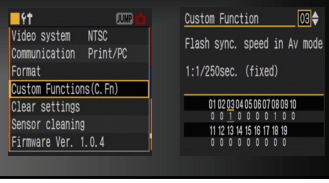
Canon Rebel (8 Mega Pixel)
$2199

Setting Flash Sync Speed

Turn Dial to Custom Function

Nikon On/Off

- The custom function #3 should be set to 250th/sec for Canon D-5, 20-D and 30-D
- All others to 200th/sec



To Change the Modes:

hold down the Mode Button while rolling the Dial

Press Set to Complete

Set the Dial to **P** (Programmable) for Portrait Full Face Images (30 inches and out)

Set the Mode to **A** for Intra Oral Images (25 inches and in). The Front Dial Set to f-32

Set the Mode to **P** for Portrait Images (25 inches and out).

The camera will make all aperture and shutter speed settings for you

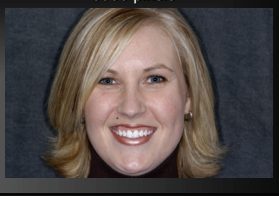
Resolution is the area of the pixels

3000px x 2000px = 6,000,000 pixels

Or 6 mega-pixel

3000 pixels

2000 pixels



Macro Lens Capable of Manual Focus and Selectable Magnification Ratio

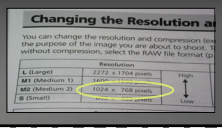
The quality of the lens influences the camera package cost!

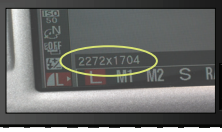
- Evaluate Digital Images on a Computer Monitor, NOT On a Camera or a TV Screen!
  - **Camera Screens** and **TV Screens are Low-Resolution** and Can Not show a Digital Image as it was captured by the Camera.
  - Images are shown at the NTSC, *National Television Standards Committee* resolution of 648 x 486 or less!)

What Is The Most Common Computer Screen Resolution?

Camera Resolution/Picture Resolution

Check your camera settings and your camera manual.
(Example: 2272 x 1704 = 3,871,488 million pixels or 3.8 Megapixels).

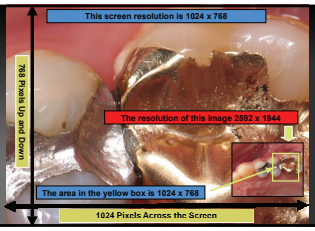


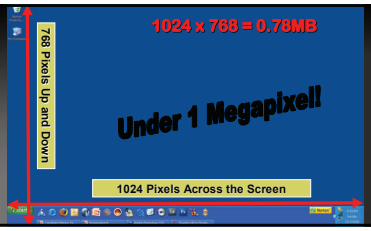


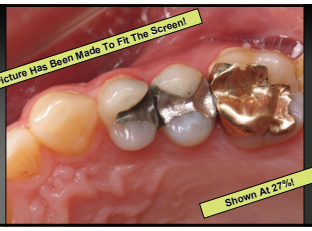
Photography Lecture for Accreditation Documentation

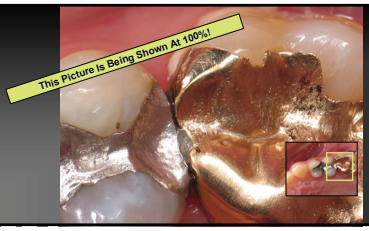
Digital Resolution - Summary

Digital Video Picture	-	320 x 240	Screen Capture
Digital Video Picture	-	640 x 480	Screen Capture
Digital Video Picture	-	800 x 600	Screen Capture
Screen Resolution Most Common -		1024 x 768	Displays RGB Color
Screen Resolution	-	1280 x 1024	Displays RGB Color
HDTV – Low Resolution	-	1280 x 720	Screen Capture
HDTV – Hi Resolution	-	1920 x 1080	Screen Capture
SLR Digital Camera Pictures	-	3504 x 2336	RAW and/or JPG (8.2MB)









Digital image quality is contingent upon five distinct factors related to the image

- *Correct Color*
- *Correct Exposure*
- *Good Tonal Range*
- Depth Of Field
- Image Sharpness

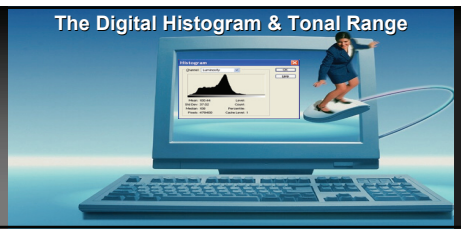
- Use Software To View The Picture At 100%
- 1:1, Actual Size & 100% all mean the same thing!

"MOST" digital cameras and computer screens produce images by mixing three colors together.

What Are They?

R G B

The Digital Histogram & Tonal Range



What Is The Predominant Color In An Intraoral Dental Picture?

* * *RED * * *

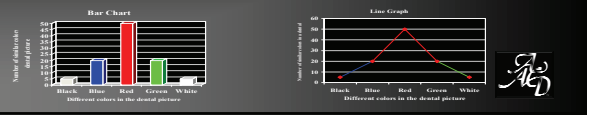
The Tonal Range Of Close-Up Dental Pictures Will Be Similar!

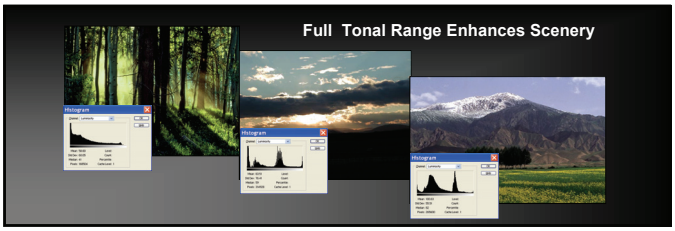
Are the colors, pure black and/or pure white, natural colors found in the human mouth?

Tonal Range" is the span of color from dark to light.

Correct color is judged by people, not computers!

A histogram is a bar or line graph.





Histograms can depict the amount of dark > light in an image

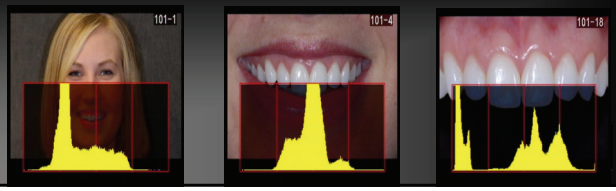


Image File Formats

- PSD- PhotoShop Document
  - –Native format for Adobe PhotoShop
  - –Layered images useful for collages with multiple images for patient or dental presentations

Image Editing

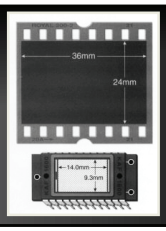
Global, focal, fixed point or spot editing is strictly prohibited and considered fraudulent. This means even innocent changes such as cleaning up dust spots, cropping, rotating, resizing or eliminating red eye is not allowed.

Magnification Factor

- Lens magnification conversion is needed for most digital SLR cameras
- Magnification of 1.5-6 x the setting on the lens barrel

Film Vs Digital

Magnification Factor 1.5 X



Set the Lens on a Digital Camera to 1:3 for1:2 Views

Magnification Factor

- SLR Cameras with smaller sensors than 35mm film
  - –Nikon D1, D1X, D200, D100, D70, D50, D2H, D2X
  - –Canon D30, D60, 1oD, 20D, Digital Rebel
  - –Fuji S1Pro, S2Pro, S3Pro
- Cameras with full frame sensors (no magnification adjustment needed)
  - –Canon 5D
  - –Kodak 14N
  - –Contax N Digital

Set the Lens on a Digital Camera to 1:1.5~ 1.6 for **1:1** Views

Switch Lens to Manual Focus

Cannon

- Flash should be on the ETTL setting by pressing Mode.
- Best exposure for most intra oral shots is at +1. To set this push the "sel/set button until the "0" blinks and then push the "+" button until you get +1.

Move Camera In & Out to Focus

Nikon D-200

- Flash should be set to TTL by pressing the Mode button.

d70 gd

TTL Flash

- Through The Lens
  - –Camera reads exposure necessary and cuts off the Duration of the flash
  - –Will result in images useful for Accreditation
  - –TTL images may be slightly under exposed, tint variations, lower depth of field, and a narrower tonal range

Manual Flash

- Manual
  - –F-stops need to be set using light meter or histogram assisted
  - –More accurate exposure and color, appropriate depth of field, and a wider tonal range
  - –Need to change more camera and flash settings during image capture. (More difficult to delegate)

Cannon

- Flash should be on the M setting by pressing Mode.

SLR Cameras

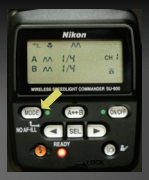
- TTL Metering (Through The Lens Metering)
  - Nikon D-200
  - Canon 5-D
  - Canon 20-D
  - Canon Rebel

Manual Mode

- All Of The Above
- Nikon D100
- Nikon D-70
- Nikon D-50
- Fuji S-3

Nikon D-200

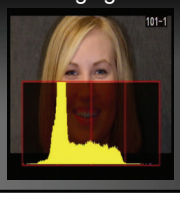
- Flash should be set to M by pressing the Mode button.

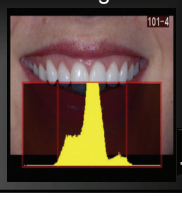


d70 gd

RAW & JPeG

f-stops need to be set using light meter or histogram assisted





- Traditional pictures come in different formats like Film, Negatives, Slides, Copies, and Prints.
- Digital images come in standard picture formats like RAW,TIFF, TGA, BMP, WMF, GIF, PSD, JP2, JPG, etc, etc, etc.
- Two digital image formats that matter to us!

"RAW" and "JPG"

JPeG

Question 2:

If my digital camera is set to create only JPG images, then where is the original, uncompressed RAW file?

All digital cameras first create RAW data, then the camera processes the RAW data into a JPG image. The camera then deletes the RAW data. It is GONE!

Image File Formats

- JPEG: "Joint Photographic Expert Group"
  - –JPEG file format is a "Lossy" compression—loses pixels each time it is saved
  - –Smaller file size--½ to 1/50 size of original- Requires less storage space
  - –Excellent quality if used carefully
  - –File type can be read by windows

RAW

Question 1:

Does a JPG/JPEG image lose any image quality when it is repeatedly opened and closed? (Yes/No)

No…

Only when a JPG/JPEG image is opened and "re-saved" is there a loss of image quality through "re-compression" of the JPG/JPEG image.

Image File Formats

- RAW file
  - – Original uncompressed picture data encoded in a binary format. *(lossless)*
  - – Digital cameras will store the RAW picture data as a bunch of carefully *encoded 1's and 0's*. (RAW picture data is not even a picture, yet!)
  - – There is no pre-defined way the picture data is organized in the RAW file as each camera manufacture/camera model can produce and encode the picture data uniquely.
  - – RAW data is, "un-processed" data, like an undeveloped roll of 35mm film, only much more secure. RAW data can not be edited or changed. Can be considered a "digital negative".
  - – Adobe PhotoShop, ThumbsPlus, ACDSEE, & Microsoft RAW Viewer can read most RAW formats

SAMPLE RAW DATA

(This bit of RAW data was taken from a single picture file that contains over fourteen thousand, three hundred lines of code!)

±ßíòP¢¥ • f:E«> Rÿ.>ÑÅ#{º<b½¯@}² âû~F>□3ìÙÊ "÷)N²vbˆ879˜O`ä‡ Þ‰Gˆ
xë´Ïƒì0CXxàx4t.•ïß#çxÕó‡ùÌBLÛ(æ.9¿§é˜□ëiæ³±©TFƒ ·¿}À®ìŽš$eáë†ø1>¯
□"=½P 'p& ôwX) >îÄfç§jEœfKra.(â8□±Œy¹c€
ïêS=¾H ‡°àÐ È9 Î°"8□ògÔ°O >'$'h hkÕ'Îî²±×÷œC™P|$ËÔ6½àß

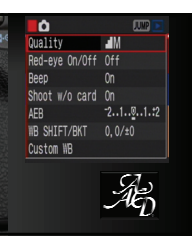
Turn Dial

Canon Set to RAW (& JPEG)

Press Menu

Press Set

Press Set



Nikon Set to RAW (& JPEG)

Press Menu

Toggle Over & Down to Image Quality

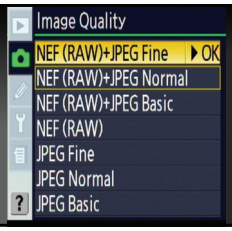
Memory Cards

Compact Flash (CF)
Secure Digital (SD)
Minimum 512MG

Press Center to Select

Card Slots in Canon and Nikon

Toggle To RAW + JEPG & Right to Select



Card Readers

- Card Readers/ Writers
  - 16 in one
  - Laptop or desktop
- PC Card Adaptors

Computers

- Windows Vista, XP Pro or XP Home Operating System
- Macintosh Computers are better but not used much in business
- Any Windows computer less than three years old and a 17 inch monitor.

Microsoft RAW Viewer

http://www.microsoft.com/downloads/details.aspx?FamilyID=d48e8066-b10d-40e4-a141-5866fd4a4186&DisplayLang=en

Click on Hyperlink or Copy and Paste to Browser
(or Google Microsoft RAW viewer)

External Hard Drives

Store directly to or use as a backup

Camera and Equipment Suppliers

Norman Camera
(800) 900-6676
www.normancamera.com

PhotoMed International
(800) 998-7765
www.photomed.net

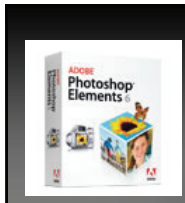
Clinipix
(866) 254-6749
clinipixinc.com

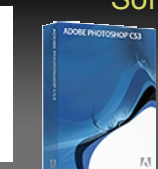
Calumet Photographic
(312) 440-4920
www.calumetphoto.com

Lester A. Dine Inc
(561) 624-9100
www.dinecorp.com

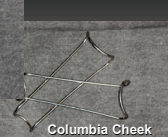
J Morita
retractors
(800) 752-9720
http://www.jmoritausa.com/free_access_II.asp

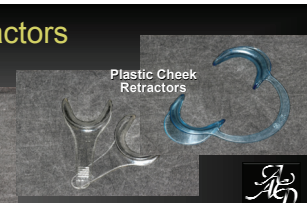
Software



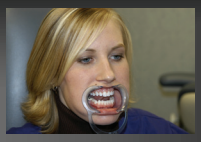
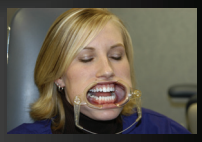


Retractors





Retractors

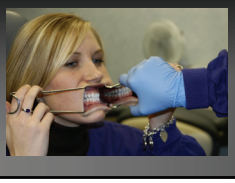
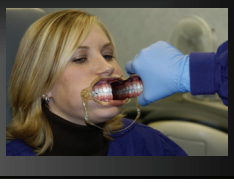
Mirrors

Mirrors

Full Arch

Buccal

Mirrors

Warm Mirrors

… or Defog with a Stream of Air

Contrasters

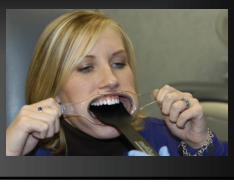


Image Quality

- **High Image Resolution does not mean that the image is "Good".**
- **Having a "Good" image does not mean that the image has "High Picture Resolution".**
- **The Amount Of Image Resolution and Image Compression Are Only A Part Of Digital Image Quality!**
- **"SIX" factors contribute to *Image Quality***

AACD Required Views

Image Quality

- **The picture needs to be in focus and clear. *(Image Sharpness, Depth Of Field!)***
- **The picture should not be too light or too dark. *(Correct Exposure, Correct Color!)***
- **The picture should be aligned and NOT twisted. *(Proper Framing!)***
- **The picture should represent the subject matter. *(Magnification, Good/Realistic Tonal Range!)***
- **The picture should NOT be compressed too much! *(Use the Highest Quality JPG Picture!)***
- **The picture needs to have "enough" image resolution. *(Five Megapixels!)***

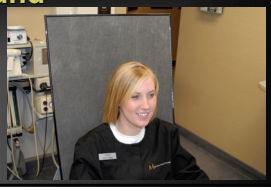
Full Face 1:10

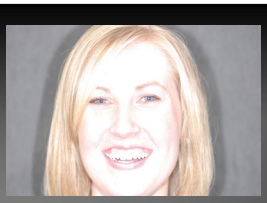
1)Horizontal Orientation only
   A)1:15 or set your own dependant on room space
2) Full Natural Smile
   A) Facial muscles relaxed
   B) Long EEE sound
3) Patients nose centered
4) Interpupillary line and vertical midline of face to orient camera
5) Uniform non-distracting background
6) Image taken directly in front of patient

Composition

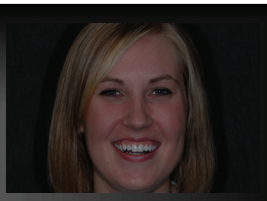
- Framing- See your desired view
- Centering- Horizontal and Vertical
- Focusing- Set magnification ratio and move in and out until focused
- Lighting- Preset with flash
- Isolate subject- Limit movement, Desired retraction and positioning
- Posing, smiling- Full natural smile(EEE)

Background

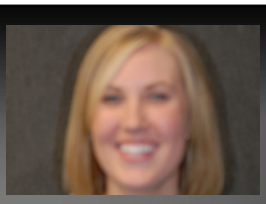




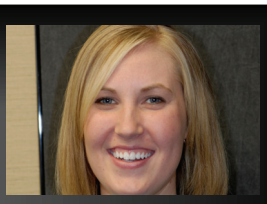
Over Exposed



Under Exposed



Out of Focus



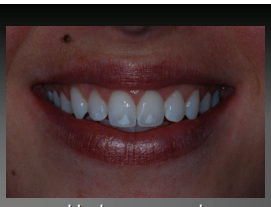
Poor Isolation

Superior Angle

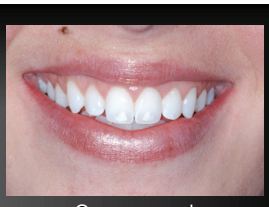
Inferior Angle

Full Smile 1:2

- Full natural smile- Long EEE sound
- A) Normal display of teeth and gingiva patient displays while smiling broadly or laughing
- 2) Vertical center of slide- Philtrum of lip
- 3) Horizontal midline of image- Incisal plane of upper teeth
- A) Don't correct for midline or canted incisal plane
- 4) Camera 90 degrees to subject- Horizontal and vertical
- 5) 1:2 (1:3) Magnification- Patient's lips completely framed
- 6) Focus on Centrals



Under exposed



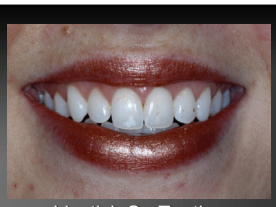
Overexposed

Canted

Off Centered

Left Lateral 1:2

- Full Natural Smile- Long EEE sound
- Background advisable behind patient
- Vertical midline of image is lateral incisor
- Horizontal midline- Incisal plane
- Focus on lateral incisor
- Contralateral central (and possibly lateral) incisor should be visible



Lipstick On Teeth

Frontal Retracted 1:2

- Upper and Lower teeth slightly parted
- Display as much gingiva as possible
- Minimize lips and retractors
- Dry tissue and teeth
- Vertical Midline-Mid line of face
- Horizontal Midline- Incisal plane of upper teeth perpendicular to vertical midline
- Camera 90 degrees to subject- Horizontal and vertical
- 1:2 (1:3) Magnification- Both arches completely in focus

Right Lateral 1:2

- Full Natural Smile- Long EEE sound
- Background advisable behind patient
- Vertical midline of image is lateral incisor
- Horizontal midline- Incisal plane
- Focus on lateral incisor
- Contralateral central (and possibly lateral) incisor should be visible

Right Retracted 1:2

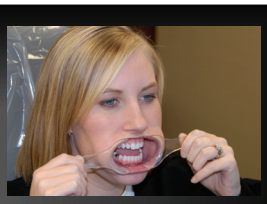
- Upper and Lower teeth slightly parted
- Display as much gingiva as possible
- Minimize lips and retractors
- Dry tissue and teeth
- Vertical midline of image is lateral incisor
- Horizontal midline- Incisal plane
- Focus on lateral incisor
- Contralateral central (and possibly lateral) incisor should be visible
- 1:2 (1:3) Magnification- Contralateral cheek will obscure background

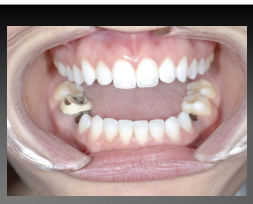
Left Retracted 1:2

- Upper and Lower teeth slightly parted
- Display as much gingiva as possible
- Minimize lips and retractors
- Dry tissue and teeth
- Vertical midline of image is lateral incisor
- Horizontal midline- Incisal plane
- Focus on lateral incisor
- Contralateral central (and possibly lateral) incisor should be visible
- 1:2 (1:3) Magnification- Contralateral cheek will obscure background

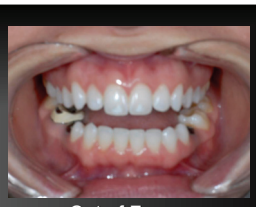
Under Exposed

Under Exposed, Magnification Ratio

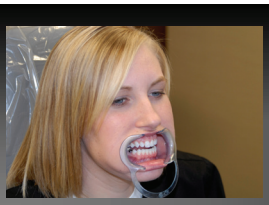


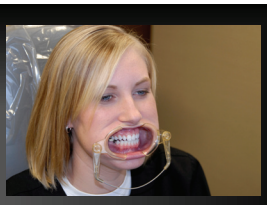


Over Exposed, Poor

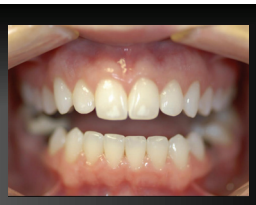


Out of Focus





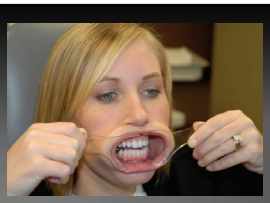
Under Exposed, Magnification Ratio



Too Large of Aperture- Small f-stop

Frontal Retracted 1:1

- Maxillary anterior teeth should be centered
- Dry tissue and teeth
- Vertical Midline- Mid line of centrals
- Horizontal Midline- Incisal plane of upper centrals
- Camera 90 degrees to subject- Horizontal and vertical
- 1:1 (1:1.5) Magnification- Frame 4-6 upper teeth
- Contrasting device is optional



Right Retracted 1:1

- Maxillary lateral incisor should be centered
- Dry tissue and teeth
- Vertical Midline- Midline of lateral
- Horizontal Midline- Incisal plane of uppers
- Camera 90 degrees to lateral incisor- Horizontal and Vertical
- 1:1 (1:1.5) Magnification- Frame 4-6 upper teeth
- No retractor should be visible
- Contrasting device is optional

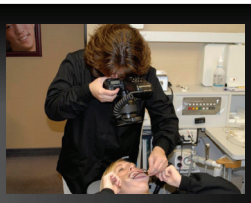
Moisture/ Glycerin on Teeth

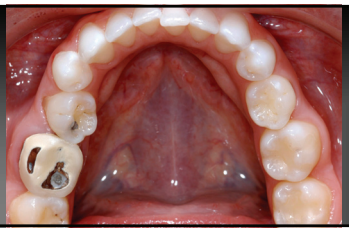
Left Retracted 1:1

- Maxillary lateral incisor should be centered
- Dry tissue and teeth
- Vertical Midline- Midline of lateral
- Horizontal Midline- Incisal plane of uppers
- Camera 90 degrees to lateral incisor- Horizontal and Vertical
- 1:1 (1:1.5) Magnification- Frame 4-6 upper teeth
- No retractor should be visible

Maxillary Arch 1:2

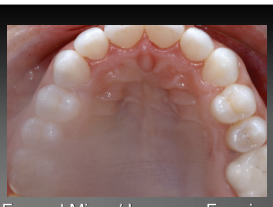
- Occlusal view taken with retractors and a high quality mirror
- The facial surfaces of the central incisors should be visible
- Frame image to exclude patients nose and unreflected teeth and minimize lip display
- Eliminate fog- Warm mirror or use a gentle stream of air on mirror
- Image should be taken at a 45 degree angle to the mirror
- Show as many teeth as possible- Central incisors to a minimum of the mesial of the second molar
- Image should show Incisal of the anterior teeth and the facial and lingual embrasures
- Image can be taken from in front of the patient



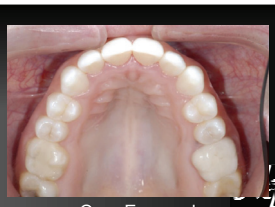


Mandibular Arch 1:2

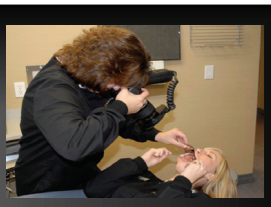
- Occlusal view taken with retractors and a high quality mirror
- The facial surfaces of the central incisors should be visible
- Frame image to exclude patients nose and unreflected teeth and minimize lip display
- Eliminate fog- Warm mirror or use a gentle stream of air on mirror
- Image should be taken at a 45 degree angle to the mirror
- Show as many teeth as possible- Central incisors to a minimum of the mesial of the second molar
- Image should show incisal of the anterior teeth and the facial and lingual embrasures
- Image can be taken from in front of the patient partially



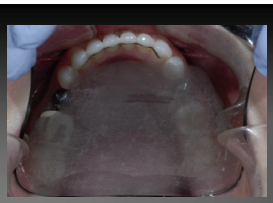
Fogged Mirror/ Improper Framing



Over Exposed



Poor Framing



Fogged Mirror

Wrong Magnification Ratio

- Photo Image of X-Ray
- Digital x-ray Image
- Scanned X-Ray

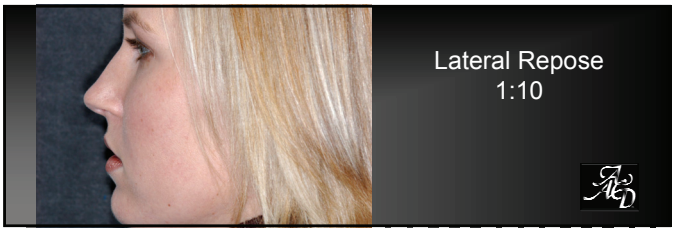
Image Editing

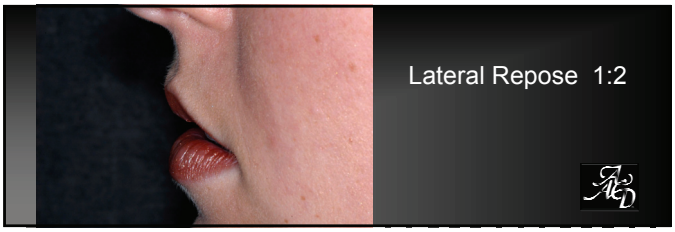
Global, Focal, fixed point or spot editing is strictly prohibited and considered fraudulent. This means even innocent changes such as cleaning up dust spots, cropping, rotating, resizing or eliminating red eye is not allowed.

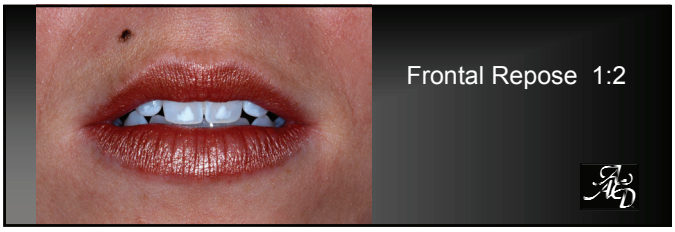
Frontal Repose 1:10

Additional Photo Documentation

Lateral Smile 1:10


Lateral Repose
1:10


Lateral Repose 1:2


Frontal Repose 1:2

Maxillary Occlusal Plane 1:2

Lateral Smile 1:2

Mandibular Occlusal Plane 1:10

Maximum Intercuspal Position 1:2

Maximum Intercuspal Position-Right 1:2

Digital Photography Courses

Dallas Dental Solutions

Dr. Greg Lutke

972-801-9733

www.Dental-Solutions.com

Maximum Intercuspal Position-Left 1:2

Digital Photography Courses

Perfect Perspectives

Dr. Steve Snow

925-820-6003

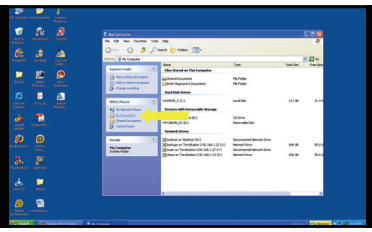
www.perfectperspectives.com

Double Left
Click on
My Computer

Table of Contents

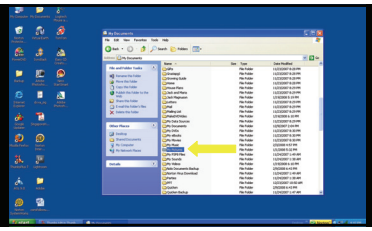
Create Folders for Pictures, ppt Template, Candidate-Mentor Communication……. 3
Download and Save PowerPoint Template From AACD Web Site……20
Download and Save PDF Title Slide and Treatment Slide From AACD Web Site……31
Microsoft RAW Image Viewer For Windows XP……45
Copy Images to Your Computer……58
Opening and Using Template……84
Create CD's For Submission……127

Double Left
Click on ***My Documents***

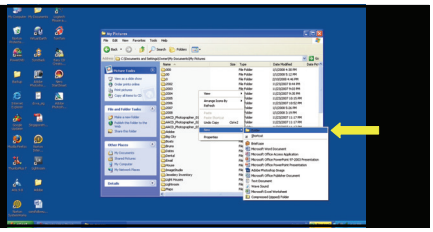


Create Folders for Images, PowerPoint Template, and Candidate-Mentor Communications

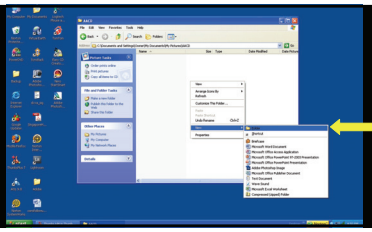
Double Left
Click on
My Pictures



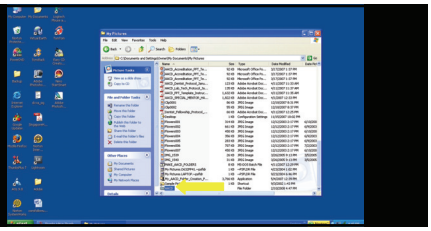
Right click anywhere on the white space, slide your mouse to ***New***, and then over to ***Folder***



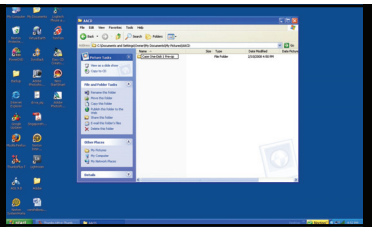
Right click anywhere on the white space, slide your mouse to ***New***, and then over to ***Folder***



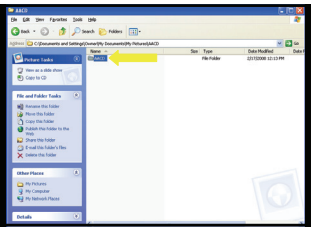
Use your computer keyboard to type in ***AACD***



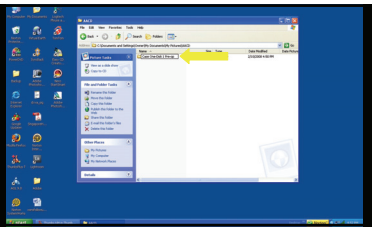
Use your computer keyboard to type in ***Case One Disk 1 Pre-op***



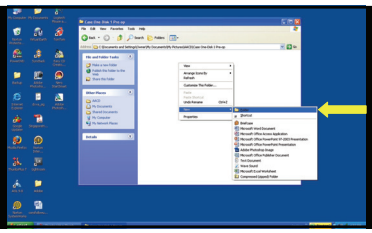
Double left mouse click on the new folder ***AACD***



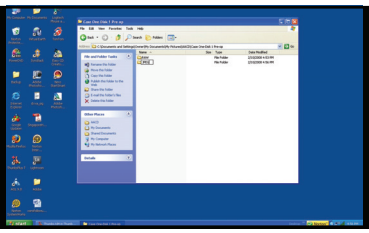
Double left mouse click on the new folder ***Case One Disk 1 Pre-op***



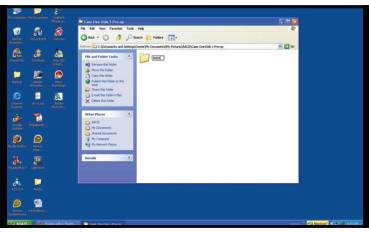
Right click anywhere on the white space, slide your mouse to ***New***, and then over to ***Folder***



Use your computer keyboard to type in ***JPEG***



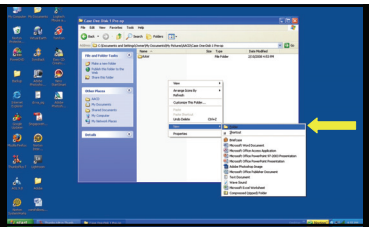
Use your computer keyboard to type in ***RAW***

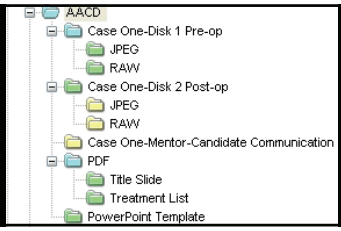


Create Additional Folders

- Folders for each case type
  - Pre-0p
    - RAW
    - JPEG
  - Post-op
    - RAW
    - JPEG
- PowerPoint Template
- Candidate-Mentor Communication
- PDF
  - Title Slide
  - Treatment List

Right click anywhere on the white space, slide your mouse to ***New***, and then over to ***Folder***





Close all Programs and return to desk top

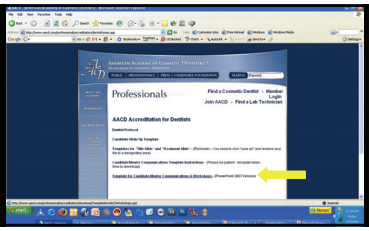
Left Click on ***Accreditation***

Download and Save PowerPoint Template From AACD Web Site

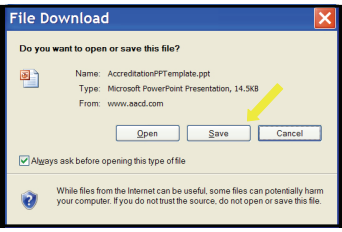
Left Click on ***Accreditation – Dentist/Lab Technician Protocol***

Open your web browser and go the AACD web page

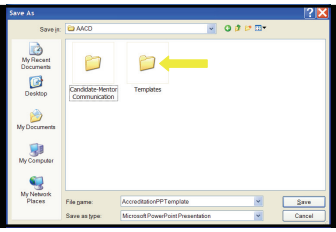
Left Click on ***Template for Candidate-Mentor Communication & Workshops***



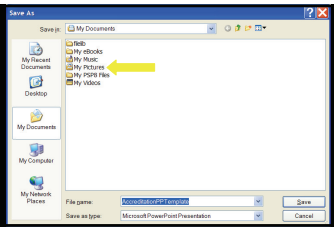
Left Click on ***Save***



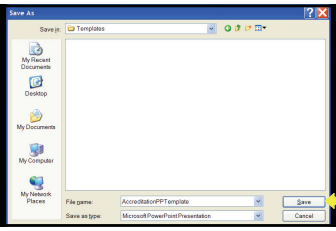
Double Left Click on ***Templates***



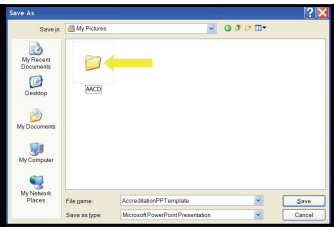
Double Left Click ***My Pictures***



Left Click on ***Save***



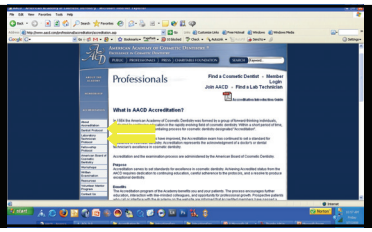
Double Left Click on ***AACD***



Close all Programs and return to desk top

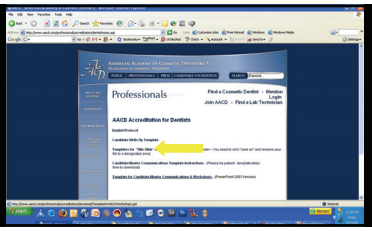
Download and Save PDF Title Slide and Treatment Slide From AACD Web Site

Left Click on ***Accreditation – Dentist/Lab Technician Protocol***



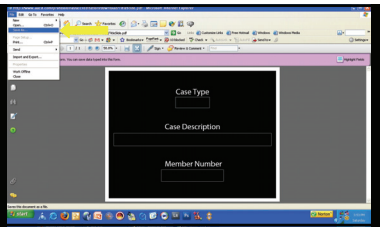
Open your web browser and go the AACD web page

Left Click on ***Title Slide***

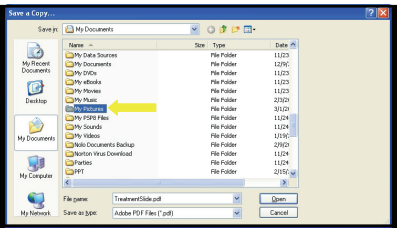


Left Click on ***Accreditation***

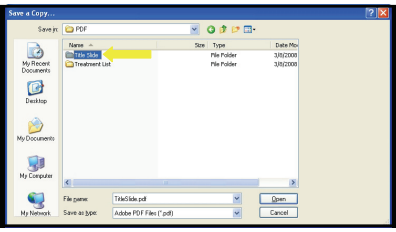
Left Click on ***File*** and then ***Save As***



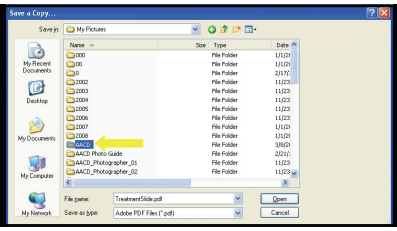
Double Left Click ***My Pictures***



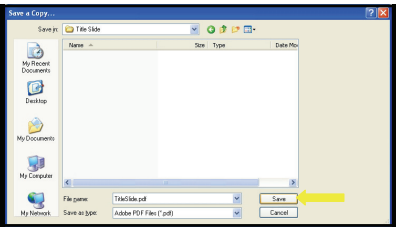
Double Left Click on ***Title Slide***



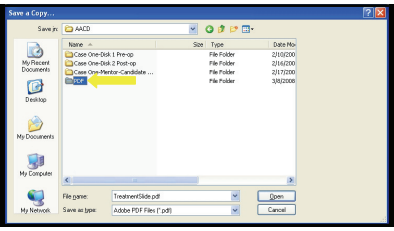
Double Left Click on ***AACD***



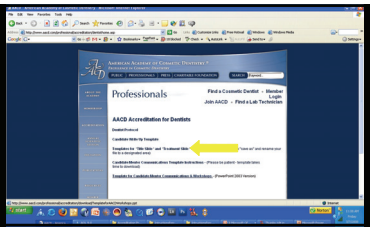
Left Click on ***Save***



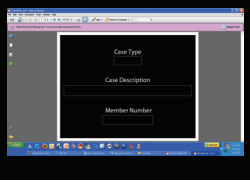
Double Left Click on ***PDF***

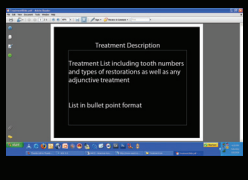


Repeat download for ***Treatment Slide***

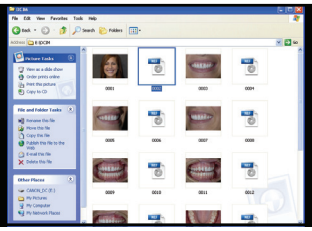


Fill out ***Title Slide*** and ***Treatment Slide*** and include them in the RAW folders





Windows can not read (view) RAW files



Close all Programs and return to desk top

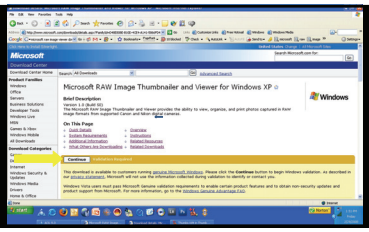
Supported Cameras

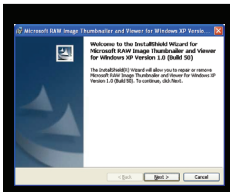
Microsoft RAW Image Viewer For Windows XP

http://www.microsoft.com/downloads/details.aspx?FamilyID=d48e808e-b10d-4ce4-a141-5866fd4a3286&DisplayLang=en

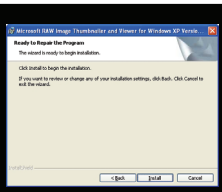
Click on Hyperlink or Copy and Paste to Browser
(or Google Microsoft RAW viewer)

Left Click on ***Continue*** for Microsoft to verify that you have a valid copy of Windows

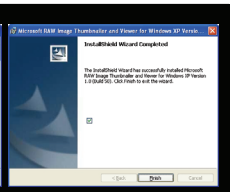




Next

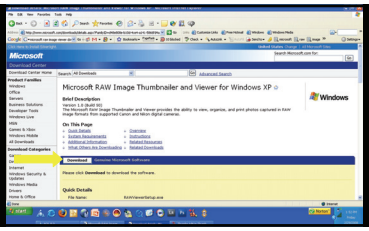


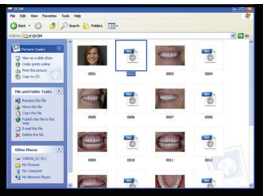
Install

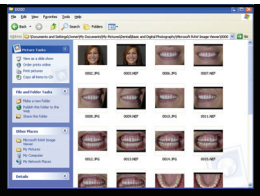


Finish

Left click on ***Download***

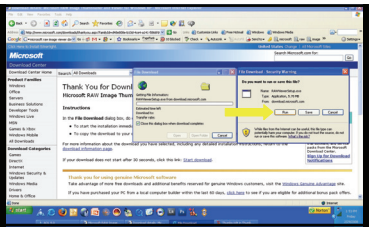




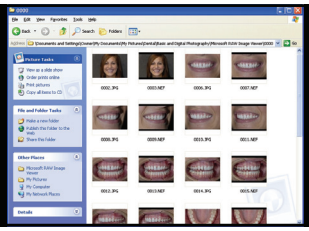


Images can now be viewed in Windows

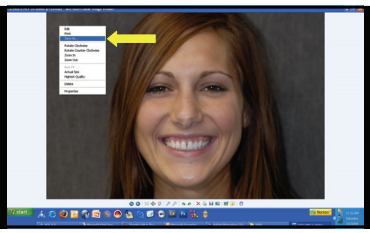
Left click ***Run***



Double Left click on a thumbnail to open it

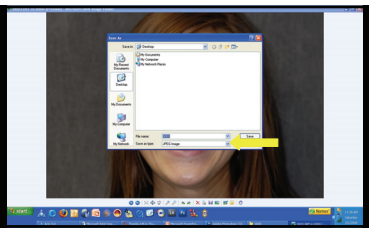


To save as a JPEG, Right click and select ***save as***



Copy Images to Your Computer

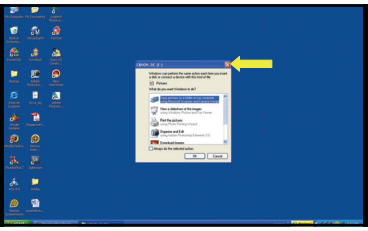
Name file and ***Save*** to desired location (Make sure file type is ***JPEG Image***)



Insert Memory Card into Card Reader

■Close all Programs and return to desk top

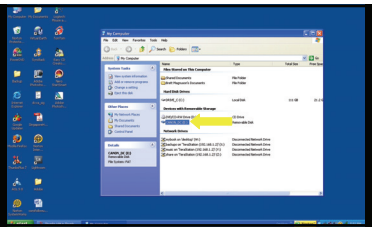
Close any Programs that open when you insert the memory card



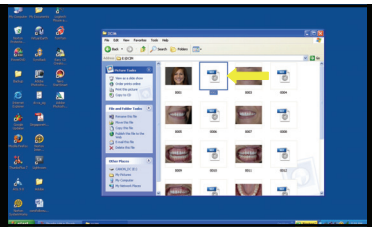
Double Left click on ***My Computer***

COPY RAW IMAGES TO YOUR COMPUTER

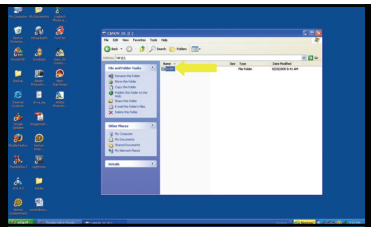
Double Left click on the Memory Card



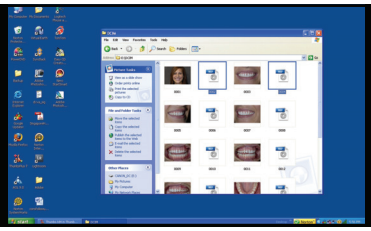
Left click on a RAW file



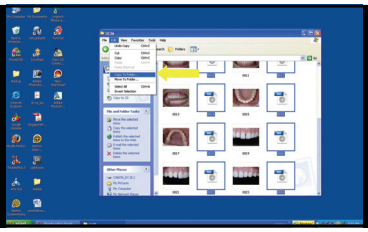
Double Left on ***DCIM***



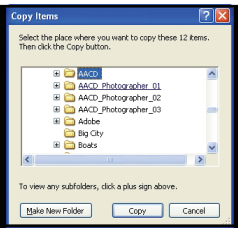
Hold Down the ***Ctrl*** Key and Left click the remaining RAW image files



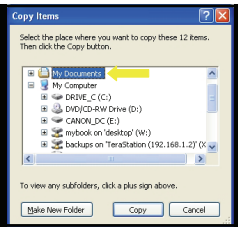
Left click ***Edit*** and then ***Copy To Folder***



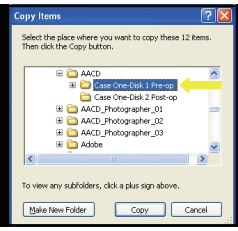
Double Left click on ***AACD***



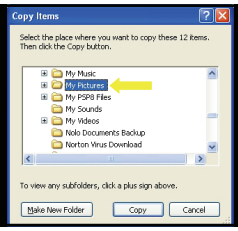
Double Left click on ***My Documents***



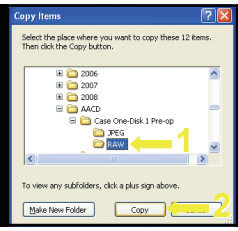
Double Left click on ***Case One-Disk 1 Pre-op***



Double Left click on ***My Pictures***

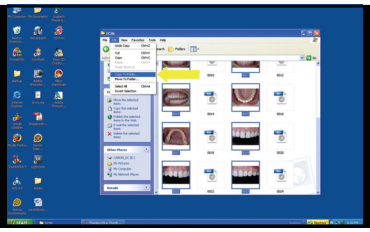


1) Left click on ***RAW***
2) Left click ***Copy***

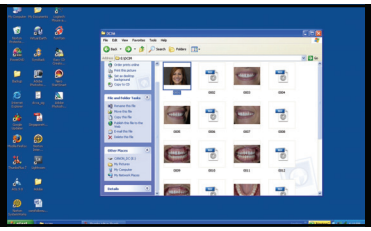


COPY JPEG IMAGES TO YOUR COMPUTER

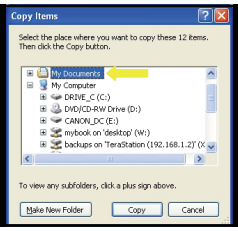
Left click ***Edit*** and then ***Copy To Folder***



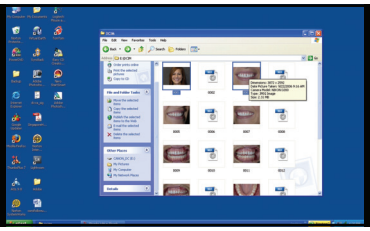
Left click on a JPEG file



Double Left click on ***My Documents***

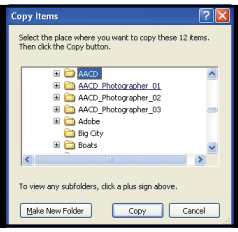


Hold Down the ***Ctrl*** Key and Left click the remaining JPEG image files



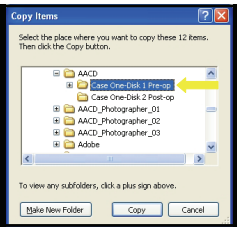
Double Left click on ***My Pictures***

Double Left click on
AACD



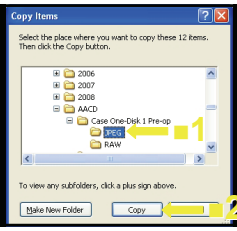
All the images will begin to copy

Double Left click on
Case One-Disk 1 Pre-op



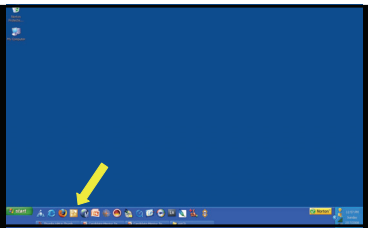
Close all programs and return to desktop

1) Left click on ***JPEG***
2) Left click ***Copy***

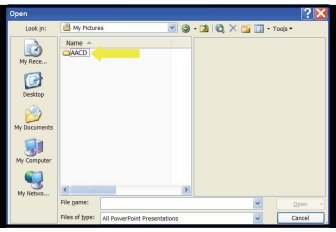


Opening and Using Template

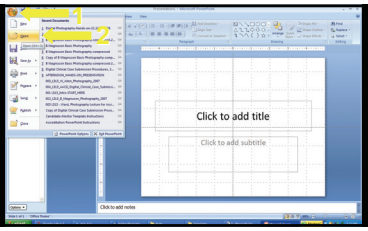
Open PowerPoint



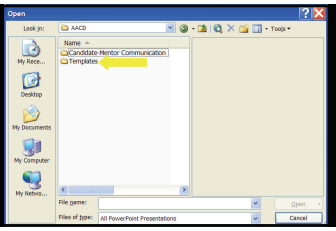
Double Left
Click on ***AACD***



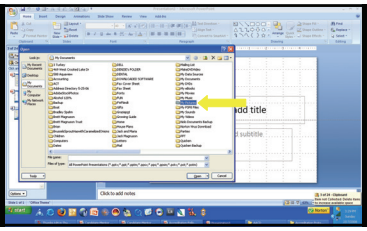
1) Left Click
2) then ***Open***



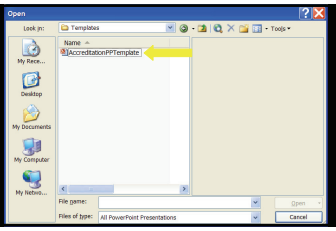
Double Left Click
on ***Templates***



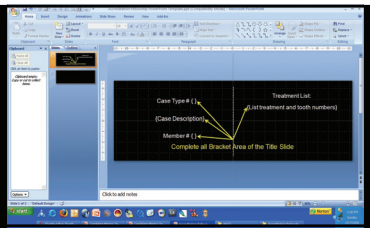
Double Left Click on
My Pictures



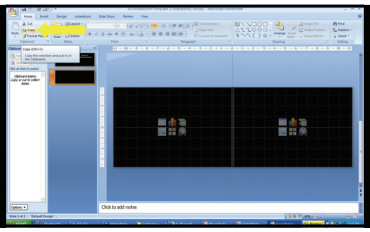
Double Left Click on
Accreditation Template



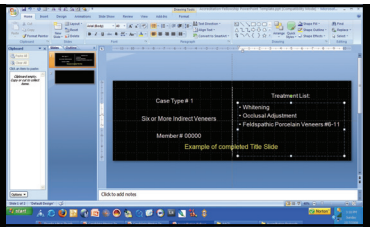
Complete Bracket Areas of Title Slide



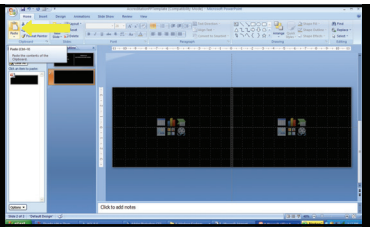
Left Click ***Copy***



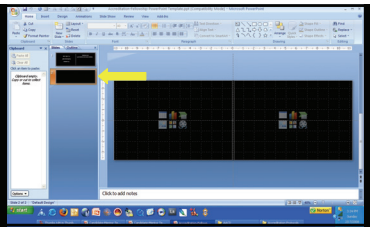
Example of Completed Title Slide



Left Click ***Paste***



Left Click on ***Slide #2***



Repeat Paste **until there are enough slides to hold all required photos including any technique photos and radiographs (note - two radiographs can fit on one slide)**

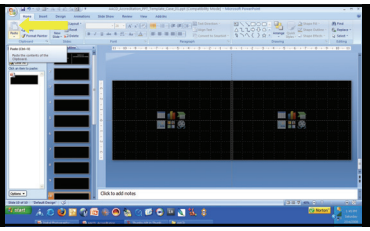
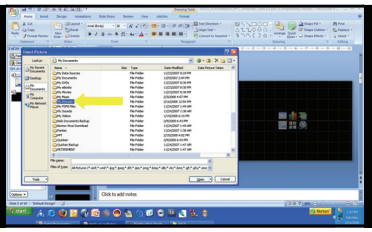


Diagram 2- Slide Arrangement

1. Title Slide
2. Full face 1:10
3. Front Smile 1:2
4. Right Smile 1:2
5. Left Smile 1:2
6. Front Retracted 1:2
7. Right Retracted 1:2
8. Left Retracted 1:2
9. Front Retracted 1:1
10. Right Retracted 1:1
11. Left Retracted 1:1
12. Occlusal Max 1:2
13. Occlusal Mand 1:2
14. X-ray (Two/slide)
15. X-ray (Two/slide)
16. Technique
17. Technique
18. Technique
19. Technique
20. Technique

Double Left Click on
My Pictures

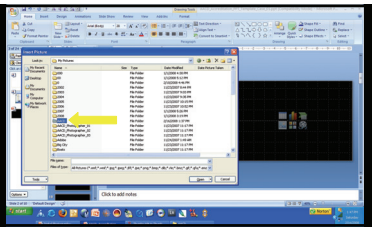


Pre-op on left

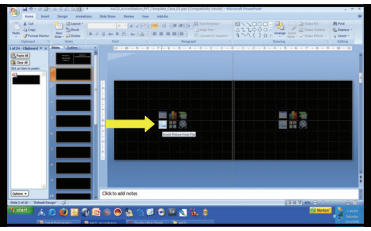
Post-op on Right

Start with Full Face 1:10

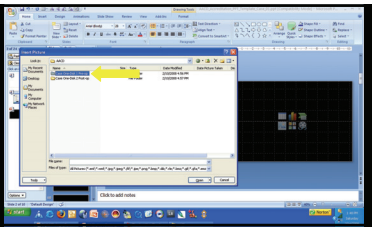
Double Left Click on
AACD



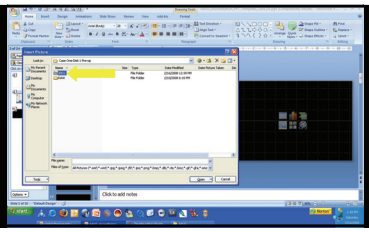
Left Click on
Insert Picture Icon



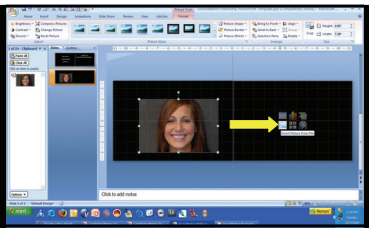
Double Left Click on
Case one-Disk 1
Pre-op



Double Left Click on ***JPEG***



Left Click on ***Insert Picture Icon,*** find and insert the Post-op image



Left Click on ***Down Arrow*** and then ***Thumbnails*** if Images are not visible

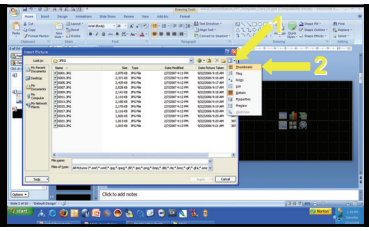
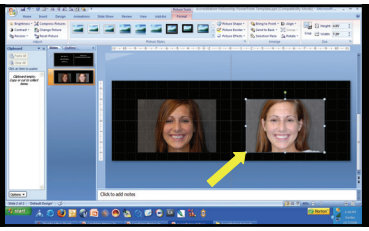
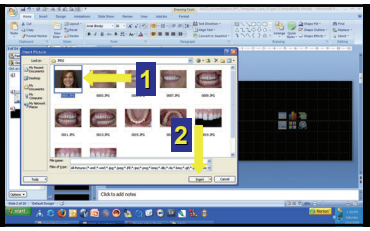


Image Should Be About The Same Size As Template Box. If Not, Click and Drag Corner of Image to Resize to Template Box

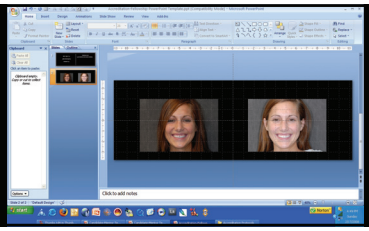


1) Left Click on ***Pre-Op Image***

2) *Insert*

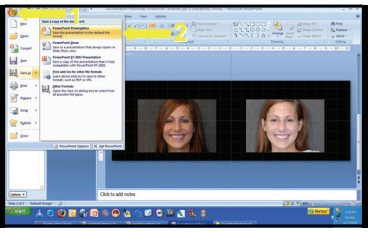


Continue Inserting All AACD Required Views



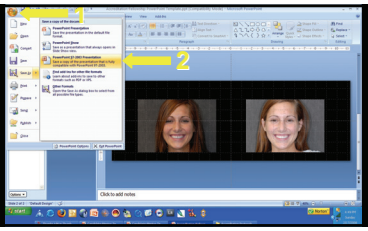
Demo of Wide Screen Power Point View

Left Mouse Click > ***PowerPoint Presentation*** to save to *PowerPoint* ***2007***



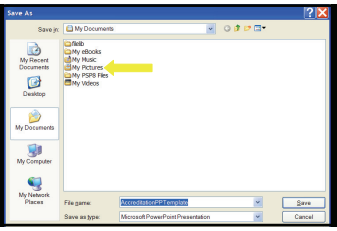
PowerPoint 2007 Automatically Compresses The File So That It can Be E-Mailed To Your Mentor

Left Mouse Click > ***PowerPoint 97-2003 Presentation*** to save to PowerPoint 2003

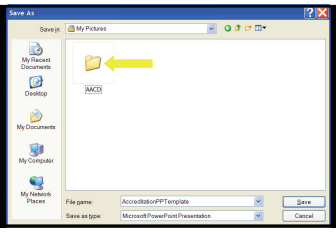


Saving the PowerPoint

Double Left Click ***My Pictures***



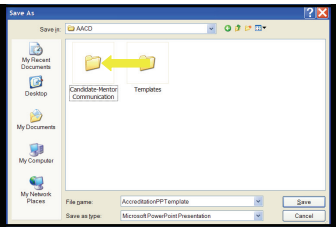
Double Left Click on ***AACD***



Self Evaluation

- Use the "ACCREDITATION EXAMINATION CRITERIA" to evaluate your work
- ***Copy and paste all applicable CRITERIA, add your comments and include as cover page of e-mail sent to your mentor***

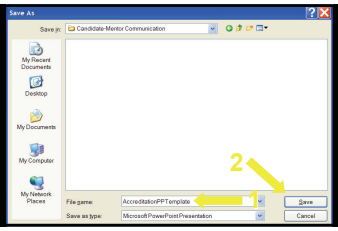
Double Left Click on ***Candidate–Mentor Communication***



ACCREDITATION EXAMINATION CRITERIA

- **20. CASE SELECTION / DIAGNOSIS / TREATMENT PLANNING**
- 21. Is case selection appropriate to achieve an optimal result in all views?
- 22. Is the choice of technique and material appropriate for the case?
- 23. Has function been considered in the choice of treatment (eg. occlusal forces)?
- 24. Have all necessary clinical disciplines been incorporated to achieve an optimal result (orthodontics, periodontal plastic surgery, etc.)?

1) Rename File
2) Left Click on ***Save***



ACCREDITATION EXAMINATION CRITERIA

- **30. PHOTOGRAPHY AND RADIOGRAPHY**
- 31. Is the photography well done with proper exposure and composition?
- 32. Are all the required views shown according to the Accreditation Photography Guide?
- 33. Are x-rays appropriate to show marginal adaptation of all teeth required to be treated per the Accreditation protocol?
- 34. Is the photography free of excess moisture and debris?
- 35. Do the radiographs show problematic clinical issues (i.e. open, overhangs, pathology or other defects)?
- 36. Has digital photography protocol been followed?

ACCREDITATION EXAMINATION CRITERIA

- **40. ELEMENTS OF DENTAL ANATOMY**
- 41. Is the emergence profile natural?
- 42. Is the labial anatomy appropriate? Are there three planes for the labial contour of the central incisor?
- 43. Have line angles been properly developed?
- 44. Is the surface polish and texture appropriate?
- 45. In the occlusal view, is the incisal edge position appropriate and is there a definite incisal edge?
- 46. Is the height-to-width ratio of the restored tooth (teeth) appropriate?

ACCREDITATION EXAMINATION CRITERIA

- **70. PERIODONTAL ELEMENTS**
- 71. Is the periodontal health optimal?
- 72. Is gingival architecture appropriate (in all views) and in harmony with smile design?
- 73. Should gingival recontouring, shaping, and/or ridge augmentation have been done?

ACCREDITATION EXAMINATION CRITERIA

- **50. ELEMENTS OF COLOR/SHADE/APPEARANCE**
- 51. Has underlying tooth color been properly managed to allow for an optimal cosmetic result?
- 52. Does the restoration have "show through" of tooth structure or the fracture line under the material?
- 53. Is the color (hue, value, chroma) selection appropriate/natural, not monochromatic?
- 54. Are effects of internal and surface color characterizations appropriate?
- 55. Is the degree of opacity realistic?
- 56. Is incisal translucency and halo effect appropriate?

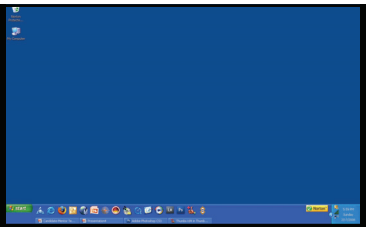
ACCREDITATION EXAMINATION CRITERIA

- **80. SMILE DESIGN ELEMENTS**
- 81. Are incisal edges in harmony with the smile line?
- 82. Is the midline appropriate?
- 83. Is the axial inclination appropriate?
- 84. Are the incisal embrasures proper? Is there a natural progressive increase in the incisal embrasure size from the central to cuspid?
- 85. Are the principles of proportion and central dominance appropriately used?
- 86. Is the cervical/incisal tooth length symmetrical from right to left?
- 87. Are contra-lateral teeth in harmony in terms of size, shape and position?
- 88. Is the buccal corridor properly developed?
- 89. Are the cervical embrasures proper? No dark triangles?

ACCREDITATION EXAMINATION CRITERIA

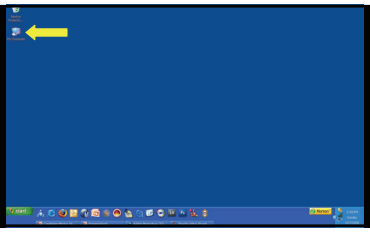
- **60. PROSTHODONTIC ELEMENTS**
- 61. Is margin placement and design appropriate? Are the margins visible?
- 62. Is there evidence of cement or resin at the margins?
- 63. Was an appropriate pontic design selected and was it developed properly to ensure optimal tissue health and contour?
- 64. Is the interproximal contact or connector proper in length and position?
- 65. Is the choice of luting material appropriate?
- 66. Is there evidence of iatrogenic damage to adjacent, opposing or treated teeth?

Close all programs and return to desktop



Create CD's For Submission

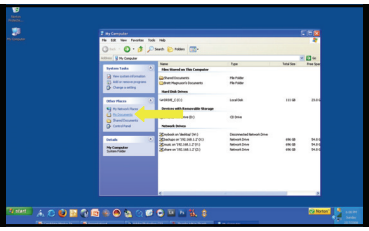
Double Left click on ***My Computer***



Compact Disk # 1

- **Folder One:**
  - 12 required pre-operative RAW images
  - pdf Case title listing from AACD website
  - pdf Treatment listing from AACD website
  - RAW technique views when applicable
  - Case Type III – periapical radiograph showing edentulous space or failing tooth ***prior*** to implant placement
- **Folder Two:**
  - 12 required preoperative JPEG images converted from the RAW images in
  - folder one

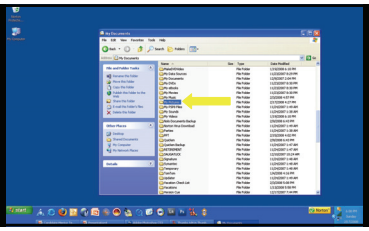
Double Left click ***My Documents***



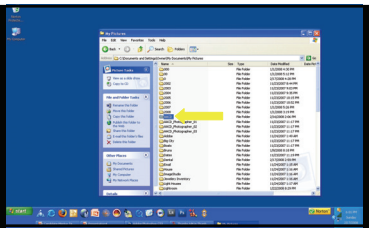
Compact Disk # 2

- **Folder One:**
  - 12 required post-operative RAW images
  - pdf Case title listing from AACD website
  - pdf Treatment listing from AACD website
  - Post treatment periapical radiographs
- **Folder Two:**
  - 12 required post-operative JPEG images converted from the RAW images in folder one

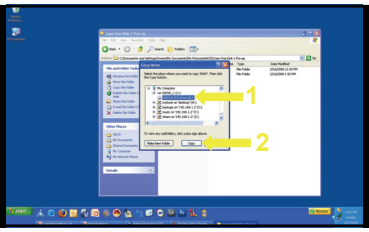
Double Left click ***My Pictures***



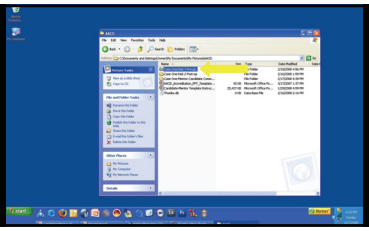
Double Left click
AACD



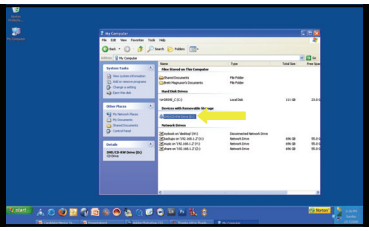
1) Left click
DVD/CD-RW
2)Then Left click
Copy



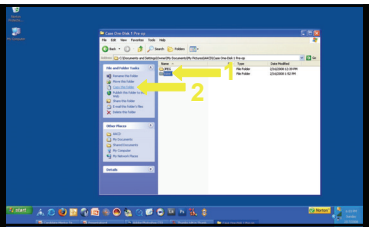
Double Left click
Case One-Disk 1
Pre-op



Double Left click
DVD/CD-RW

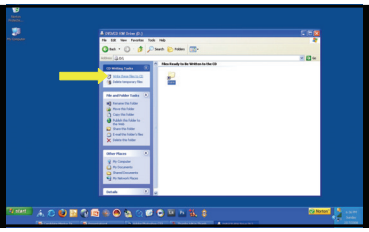


1) Left click ***RAW***
2) Then Left click
Copy This Folder



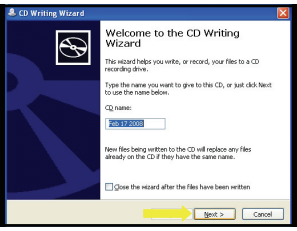
INSERT A BLANK WRITEABLE CD IN THE DVD/CD DRIVE

Left click
Write these files to CD

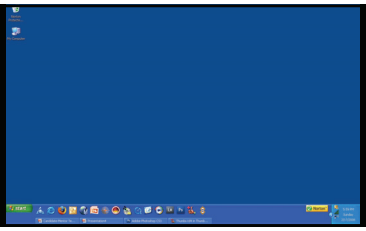


1) Properly label CD using instructions from The Testing Protocol for Accreditation
2) Open CD and verify files and images have been copied

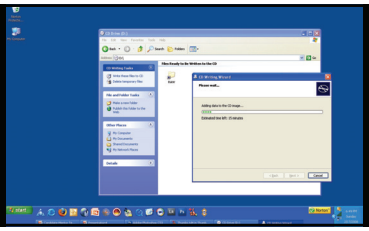
Left click
Next



Close all programs and return to desktop



When finished eject CD



Credentialing

Hands On

- Hands on instructions, Camera setting instructions, AACD Photo Guide on table
- Break into 33 groups of 3 Those with cameras capable of manual mode only raise your hands to identify for pairing
- Each group of 3 will share a computer
- One instructor will assist with two groups
- There are nine Canon cameras (provided by Norman Cameras) set to RAW with TTL flash available for use if you did not bring a camera
- One participant- Photographer
- One participant- Assistant
- One participant- Model
- Rotate through each position-The Photographer should become the Assistant so that they view their images once the instructor has them upload to the computer.
- Capture images of the 12 required AACD views
  - Back ground is not necessary
  - Mirror and retractors are available for purchase for $60 from Brett of Norman Camera
  - Assistants use compressed air to keep mirrors defogged
- Bring cameras with capture card to instructors for uploading to computer and formatting
- Rotate for the next participant to capture image series