

## DISPLAYING MEDICAL IMAGES FROM A CD

### Obtaining a Viewer

If you have a CD (or DVD) with medical images on it, the vast majority of such disks are DICOM CDs.

DICOM is the standard format for medical images. Medical imaging equipment manufacturers use the DICOM format to distribute images (just as digital camera manufacturers distribute images in JPEG format). DICOM files contain the images along with details about the patient, the scan that generated the image and the characteristics of the image itself.

DICOM images can be displayed using a program called a 'DICOM viewer'. An Internet search (e.g. for "DICOM viewer Windows" or "DICOM viewer Mac") will locate a variety of DICOM viewers, both free and for sale.

When DICOM CDs are created, as a convenience they often include DICOM viewers on the CD, or a direct link to a viewer that may be run from the Internet, although you do not have to use the supplied viewer if you already have one installed on your computer.

A list of viewers that are provided freely by MITA members for download includes:

- [http://www.healthcare.philips.com/main/about/connectivity/dicom\\_conformance\\_main.wpd](http://www.healthcare.philips.com/main/about/connectivity/dicom_conformance_main.wpd)
- <http://healthcare.siemens.com/medical-imaging-it/syngo-special-topics/syngo-fastview>

You can also list the individual files on a DICOM CD using a regular file browser such as the one that starts up in Windows when you go to My Computer, but in general you will want to use a viewer that loads the entire study, rather than examine one image file at a time.

### Non-Standard or Unreadable CDs

If you are unable to view the images:

- Examine the CD or DVD for physical damage, or the absence of darkened areas on the non-label side - occasionally CDs are damaged or blank; if a DVD, make sure you put it into a DVD drive.
- Look for an indication that the CD conforms to the IHE PDI (Portable Data for Imaging) Profile, e.g. "PDI" on the CD label or in a README file on the CD. IHE PDI CDs are DICOM CDs that follow additional compatibility guidelines.
- Look for a file named DICOMDIR on the CD; absence indicates a non-DICOM CD.
- Contact the hospital or imaging center that prepared the CD; speak with the imaging department and ask them to describe the format of the CD and ask them for instruction on how to view it, what viewer to use and where such viewer can be found.
- It is possible that the radiology department populated the CD with images that have been converted to consumer format such as JPEG. Such images can be viewed with a picture viewer, but the information necessary to properly import and manage the images in a medical image archive, and diagnostic quality, may have been lost.
- Some manufacturers create CDs in a proprietary format unreadable by other manufacturers or viewers. In such cases, the originating hospital will be able to create a replacement CD that is in the DICOM standard format on request and without further charge.

One way to test the contents of a PDI or DICOM CD is to use test tools that are designed to verify compliance. These generally produce fairly technical information, which may require interpretation by a manufacturer or by a hospital's PACS administrator. A list of some test tools can be found here:

- [http://wiki.ihe.net/index.php?title=Portable\\_Data\\_for\\_Imaging\\_Implementation](http://wiki.ihe.net/index.php?title=Portable_Data_for_Imaging_Implementation)

As a last resort, unofficial support is available via the DICOM newsgroup (forum), accessible at:

<https://groups.google.com/forum/#!forum/comp.protocols.dicom>

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