SOFTWARE FOR DIGITAL IMAGING

There are three primary types of software used in general purpose digital x-ray systems. All three types are written according to standard referred to as DICOM (Digital Imaging and Communications in Medicine). This is the standard used in medical imaging for generating, storing, transmission and printing digital images. DICOM makes possible the exchange of images between digital medical equipment (e.g. CR units, DR units, CT equipment, computer workstations, etc.)

Basic functions shared in common (sometimes as options) include the following:

Receipt of DICOM images from acquisition devices (CR, DR, etc.)
Storage of DICOM images
Query / Retrieve DICOM images
Print DICOM images
CD Burning DICOM images
Hanging Protocols for practitioners
Audit Trails
Image / Study Reporting

While all have very similar basic functions, each differs in that as the additional capabilities of the software increase so does the price. A brief general (not definitive) overview of each type is as follows:

DICOM VIEWING SOFTWARE

This is the most basic and usually the least expensive category of medical imaging software. While it performs the above operations, its capabilities are limited. The storage capacity (number of images) is usually less than the others and there are limits number of concurrent users (if any). Routing of images that may be required in larger practices can be complex and cumbersome. This software is normally found in smaller offices that do not have complex image handling requirements.

PACS SOFTWARE

The acronym PACS stands for Picture Archiving and Communication Software). Practices with several practitioners or with multiple offices utilize a PACS. In addition to the above common operations listed above, PACS software is more robust and powerful than DICOM viewing software. It normally is capable of handling a larger number of concurrent users and has a much larger storage capacity for images. Most PACS software has the capability to route images based upon pre-determined rules, e.g. studies of a certain part of the anatomy can be sent to a specific radiologist or to certain modalities can be sent to outside offices, etc.

RIS PACS

This purpose of this type of software is to combine data that is used for the operations of a practice such as patient billing, examination scheduling, etc. with the diagnostic images normally kept in a PACS system. It integrates the back office workflow with the imaging part of the practice.   The PACS portion of the software is the essentially same as the stand alone PACS software. RIS PACS are normally used in radiology offices or hospital settings.