

Ultrasound Mini-PACS – A Practical Approach to Image Management Systems

Ultrasound Mini-PACS (Picture Archiving and Communications) systems are smaller image management systems which are specifically designed to address the needs and requirements of diagnostic ultrasound studies and the interpretation of those studies. Systems such as these are often a first step taken by a radiology department toward a more extensive image management system. These systems are also becoming popular for specialties outside of radiology which use ultrasound in their practices (e.g. Ob/Gyn and Cardiology).

These systems are advertised as being able to reduce or eliminate the use of film in an ultrasound department while at the same time increasing the efficiency of the department. Ultrasound mini-PACS may or may not be capable of long-term archival, accessing previous studies for comparison. Other problematic issues for Ultrasound mini-PACS include DICOM compatibility, interfaces to Radiology Information Systems (RIS) or Hospital Information Systems (HIS), and the ability to present images through the World Wide Web.

This presentation will be a tutorial on the configuration of Ultrasound mini-PACS. Advantages of these systems, including faster exam turnaround and reporting and the reduction of film costs, will be discussed. Disadvantages of these systems, including the learning curve for interpreting physicians and increased equipment costs will also be covered. A means of balancing these in terms of cost versus benefit will be presented.

The presentation will also cover topics involving the integration of an Ultrasound mini-PACS into the larger information infrastructure of an institution. Issues of concern here would include interfaces to the RIS/HIS, DICOM integration with a departmental or enterprise-wide image management system, teleradiology applications and any requirements for provision of images and reports to referring physicians. All of these issues must be considered prior to purchase and installation of an ultrasound mini-PACS in order to avoid unnecessary and costly delays. The discussion will cover these aspects of ultrasound mini-PACS and will also give a general survey of systems currently available in the marketplace.

Educational Objectives:

The objective of this presentation is to provide a Medical Physicist with adequate information to advise on the purchase and installation of these systems, including,

- 1) What constitutes an Ultrasound Mini-PACS system.
- 2) Advantages and disadvantages of an Ultrasound Mini-PACS
- 3) Important interfacing and integration issues
- 4) General survey of Ultrasound Mini-PACS available