

Volume 10 - Issue 6, 2010 - RSNA 2010 Round-up: Imaging Management Top Session Picks

Design of Imaging Departments

» Imaging Facility Design in an Age of Diminishing Resources

The learning objectives of this course were to discuss making educated decisions about newly constructed or renovated imaging facilities and to understand their impact on both first-costs and life-cycle costs of the facility. It is vital to recognise key design elements in the built environment that support MR imaging safety and support efficient staffing.

Dr Ronald Arenson, an expert in radiology informatics, workforce issues and the effect of managed care on radiology gave a presentation on New Hospital Construction – Architecture and Management of Design in which he used examples from his involvement in the design of the University of California, San Francisco (UCSF) Medical Centre at Mission Bay, due to open in 2014. Dr Arenson is chair and the Alexander R. Margulis Distinguished Professor of Radiology at the UCSF and a member of the RSNA Board of Directors.

According to Dr Arenson, healthcare delivery in the U.S. will change significantly so it necessary to prepare for regular equipment change as technology advances. This is why it is important to be wise about the use of space when designing new radiology departments, as the space available will not change, but the equipment will. Ideally different areas should be separated by specialty but this is not always possible. There are nevertheless numerous important factors to consider such as the number of rooms needed, what procedures are expected, the length of each procedure and variation. Queuing theory also plays a big role as it is important in order to maximise utilisation of all rooms. The workflow of a radiology department is very important, which is why it is necessary to consider the travel routes and times of staff and patients, which influences the design of the waiting areas and dressing rooms. In general, the more open space in the design the better as this helps the flow of a department, however, there are many competing interests so rooms need to be designed in a way that can be multipurpose. Safety is of course the most important factor so there must be at least three clear zones (public zone, transitional and safe zone), however, the comfort of the patient must also be considered, which is why lighting, heating and air conditioning services must be well planned out to avoid waste.

» Smart Design for Imaging

Dr Steven Horii, from the Hospital of the University of Pennsylvania in Philadelphia stressed that the best way to make smart decisions in design and architecture is to consult the people who will be using the facilities. He also agreed that it is not possible to have a successful long-term strategy based on technology possession alone, technology changes so the design needs to be adaptable and flexible. At times of financial difficulties and limited funds planning becomes even more important and designs need to be especially well thought out to cut costs. However, despite the financial crisis there are still critical projects taking place and 60 percent of all U.S. hospitals have projects underway or planned, 19 percent of which include imaging. The priorities of a radiology department have not changed much and customer satisfaction and improving productivity and workflow remain on top, however the challenges faced by facility managers are not solved by design but the impact of design planning, which is vital to the efficient functioning of any department. It is important to learn from others - not only other departments, medical centres or hospitals but also other industries. Evidence practice in radiology can be just as easily applied to design but in order to improve something you must first study it and understand it.

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