

RADIOLOGIST INVOLVEMENT ENSURES PENN MUSCULOSKELETAL CENTER READING ROOM FACILITATES PRODUCTIVITY AND COMMUNICATION

According to the American College of Radiology (ACR) Imaging 3.0™ vision for radiology, the radiologist must improve communications and participate in clinical decision making and care coordination with referring physicians.

The plan was to achieve this by embedding the reading room within the new Penn Musculoskeletal Center, which was designed to merge specialists from orthopaedics, rheumatology, physical medicine and rehabilitation, internal medicine, pain medicine and radiology in one location.

Dr. Woojin Kim, Assistant Professor of Radiology at the Perelman School of Medicine at the University of Pennsylvania, who was invited to lead the effort to design the new musculoskeletal reading room points out, "The initial reading room layout suggested by the architects was a long, narrow room with insufficient space for more than one radiologist at each workstation. It did not address the ergonomic, space, communications and workflow needs of our section."

Once Dr. Kim became involved, subsequent reading room space designs included additional open space for attending-trainee workflow at each workstation, consultations both amongst the radiologists and with the referring clinicians, and improved visitor flow. The larger space also allowed room for future growth.

As the reading room development evolved and solutions to acoustics, lighting and ergonomic workstation needs were sought, RedRick Technologies, through their regional partner Evolve Technologies, was invited to contribute expertise and guidance. Noise control elements, such as acoustic wall panels and partitions between workstations

were included to reduce noise from conversations and dictations during report creations that can otherwise cause distraction. This extended to sound absorbing ceiling tiles and recycled rubber flooring to further minimize reverberations within the reading room.

Care was also taken to provide ambient lighting that minimizes the risk of eye strain and helps maximize visual acuity. Adjustable workstation backlighting was implemented to match monitor luminance at each workstation. The only source of direct lighting was reserved for housekeeping. Each workstation also integrated dimmable task lighting to ensure radiologists can read printed materials without causing glare on the PACS monitors.

The reading room was placed close to the fluoroscopy procedure room as well as two new MSK ultrasound rooms, which fostered efficient workflow. Also considered was the location of radiologists and referring physicians offices relative to the reading room location. An effort was made to create a joint conference room that facilitates information sharing and mutual learning between the referring physicians and radiologists.

RedRick Technologies also provided adjustable sit/stand workstations configured to support the standard monitor configuration used at HUP. Workstations were sized and configured to maximize the number of radiologists that can comfortably work in the room, while allowing sufficient room for small group



The newest musculoskeletal reading room at the Penn Musculoskeletal Center was designed to promote radiologist productivity and interaction with referring specialists.

consultations and traffic flow, while minimizing distractions and noise.

Dr. Kim emphasizes that “Good reading room design must not be an afterthought. Departments must define and communicate clear goals for the new reading environment. Reading room location, layout and design must be discussed with all clinicians served by the reading room. Good, ergonomic workstations alone do not constitute a well-designed radiology reading environment.”

Because of the positive feedback received since the current reading space opened in August 2014, the

lessons learned and design approach taken are being leveraged to improve other reading rooms within the Penn health system. This will ensure all radiology subspecialties realize the same benefits.

Dr. Kim advises radiologists to be actively involved in the reading room design process to ensure the needs of the radiologists, and the referring clinicians they interact with, are met. Be engaged, and early! “We would have inherited a poorly designed reading room if we did not get involved early in every aspect of the design process,” he notes. “Now we are enjoying a productive and comfortable environment that our radiologists are happy to spend time in.”