Image-guided Treatments

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The remarkable success of radiology has generated the not uncommon question: What is the future of radiology? Historical success was driven by dramatic improvements in diagnostic capabilities in MR, CT, X-ray, and US. Success calls to mind Charles Handy's quote: "The world keeps changing. It is one of the paradoxes of success that the things and the ways which got you where you are, are seldom those that keep you there." What are the new ways? The last newsletter highlighted machine learning as one way.

Pablo Picasso provides further insight: "Success is dangerous. One begins to copy oneself, and to copy oneself is more dangerous than to copy others. It leads to sterility." An enticing opportunity for radiology to not copy itself is to innovate and expand delivery of image-guided, minimally invasive treatments (IgRx) for common health problems. This requires a re-balancing of strategic direction between our well-established diagnostic component and interventional radiology (IR). Our Department employs the strategy of closely linking diagnostic imaging with image-guided therapy. More closely linked treatments offer UCLA Radiology very effective, direct contact with patients. While there are several possible futures for radiology as a specialty, those that include direct patient contact are more favorable ones.

Being a local treatment, IgRx can play an innovative role in "precision medicine." In this context, IgRx requires new skill sets and additional funds of knowledge. The new IR training program recognizes this development. In addition, IR is continuing to organize into two sub-specialty areas, including vascular IR, oncologic IR, and image-guided pain management to match the increasing sophistication of these medical treatment domains. This newsletter provides excellent examples of such sub-subspecialty services.

IgRx will extend beyond anatomic guidance to consider physiologic, molecular, and genetic information. IgRx will be refined to include "image information-guidance," meaning imaging skills must be at a high level. As this happens, new image-based information will be integrated with drug, device, and energy delivery to guide and monitor treatments tailored to patients.

The Department is aligning itself with another major healthcare trend, that of moving care into outpatient settings. The Department is translating and moving sophisticated diagnostic CT and MR imaging into our comprehensive community imaging centers. Concomitantly, we are moving vascular and oncologic IgRx from the usual hospital settings to outpatient venues as we firmly established both their quality and safety. Our new comprehensive community imaging centers are well equipped for the Department to focus on delivering three key services: vascular, oncologic, and pain image-guided treatments. The future of radiology indeed looks bright when its diagnostic and treatment arms are not only closely linked, but when IgRx can be performed in a variety of venues, convenient and safe for patients. The strategy adds differentiated value to UCLA Radiology and UCLA Health.

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