Imaging in the Digital Era

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ABSTRACT

We live in a digital era where there is advancement of technology, high use of computerisation and ultrafast communication using smart devices. This will greatly impact the quality of our lives. With the availability of Information Systems in an Integrated Health Enterprise, the work flow of imaging process cycle is improved with efficiency and productivity in place without compromising safety and security to patients and their data. Imaging is acquired with high volume of data using modalities such multi-detectors computed tomography, PET-CT, MRI and Angiography. The images stored and distributed to providers and also patients. The accessibility of studies to providers and patients are made possible using cloud technology without the constraint of physical space. Interpretation and understanding of disease process are improved using applications not only available to high-end workstations but also to personal desktops and smart personal devices such as smartphones and tablets. 3D volume imaging and motion pictures are now able to be reconstructed so that the dynamics of structures and organs can be assessed. 3D printing of patient-specific models increases performance to providers and accuracy of diagnosis. It also reduces time for operation planning and time. Artificial intelligence is being explored as an extra eye on imaging analysis complementing the radiologists and other specialists. It is used to aid detection and also aid diagnosis. Improvement of healthcare is seen in early diagnosis, detect complications and recovery accurately, stage cancers more precisely and comprehensively in digital era with advancement of Imaging