

The first commercial CT system, introduced in 1972 under the leadership of Nobel Laureate Sir Godfrey Hounsfield, was designed as a Head-only scanner. Despite long scan times and low image quality, it revolutionized Medical diagnostics with its ability to “see” the internal structures of the human brain. In just the few years that followed, there began the commercial release of full-body scanners which provided this gift of “sight” for all organs. This dramatic increase in overall utility immediately replaced the concept of single-organ devices. For almost 30 years, CT systems have remained general purpose machines that are used for a great variety of diagnostic applications. Advances such as high speed gantries, helical scanning and multi-slice detectors, have brought CT to the point where it is now able to produce diagnostic Cardiac images. But full-body scanners remain large, expensive, complex, and costly to maintain. To this fact, there has recently emerged several dedicated extremity scanners such as for Head/Neck, Maxiofacial, ENT, Dental, Spine, Hands/Feet, and Breast. This lecture will discuss the clinical advantages, limitations, and technology that these devices bring to the market. It will also address the challenges that these devices present to Medical Physics. Join in and learn of the “Renaissance to Hounsfield”!