activity; this gives good counting statistics without an increase in the overall radiation exposure. Because compact and relatively inexpensive cyclotrons are being made available now, more hospitals and research centers will be able to obtain them to produce these isotopes and carry on expanded research and treatment.

As I pointed out in describing how these medical isotopes are used, their radioactivity is detected by nuclear instruments of great sensitivity. Very significant progress has been made over the years in the improvement and sophistication of such equipment. Due recognition should be given to those scientists and engineers who have developed and improved these valuable tools of nuclear medicine. Foremost among them has been Hal Anger, who pioneered in this work at the Lawrence Radiation Laboratory's Donner Laboratory at the University of California, Berkeley. His scintillation camera, commonly known as the "Anger Camera," was a major contribution that is still finding new applications. (Figure 2.)

Figure 2. Time-lapse motion pictures of the liver of a 3-year-old girl were made with the scintillation camera 1 hour after injection of 50 microcuries of iodine-131-labeled rose bengal dye. This child was born without a bile-duct system, and an artificial bile duct had been created surgically. She developed symptoms that caused concern that the duct had closed. These scans show the mass of material containing the radioactive iodine (small light area) moving downward and to the right, indicating that the duct was still open.