With the increased concern of radiation exposure received by patients undergoing medical exams, especially computerized tomography (CT), finding a quick and economical method to estimate patient dose has become a critical issue. Radiochromic film requires no chemical processing and can be read in visible light. Improvements in the stability and dynamic range of radiochromic film have led to its use in a wide variety of medical physics quality assurance applications and in estimating skin doses from various procedures.

A new radiochromic film dosimeter, RADViewTM CT, developed by International Specialty Products, was used to measure exposure from commonly ordered CT scans at our facility. The dosimeter is a flexible card with five circular windows through which the active element is viewed. Printed color patches surrounding each window provide a reference for estimating the exposure. The color patches are printed to match doses of approximately 0.5, 1, 2, 5, and 10 rad. After exposure, the color of the active element in the window is visually compared to the reference colors and the dose is estimated by interpolation.

**Results**

The average visual assessment of dose for the five dosimeters used in each CT procedure ranged from -15% (underestimate) to 28% (overestimate) when compared to the RADViewTM CT card, two LiF100 TLD chipstrate dosimeters were placed on each side of the card. After each CT procedure, the dosimeters were independently read by four medical physicists at our facility. In addition to visual dose estimation, the darkness on the RADViewTM CT dosimeters was measured with an EPSON 10000XL photo scanner calibrated to reference dose film strips.

The CT studies chosen for this evaluation were of the head, abdomen, brain, pelvis, liver (4 phase), and stress sphenoglossus (sph). Five dosimeters were used for each type of study and placed directly on top of the patient in the area of interest. To validate the dose observed on the RADViewTM CT card, two LiF100 TLD chipstrate dosimeters were placed on each side of the card.

**Conclusion**

The radiochromic film dosimeters used in this study provided a good first approximation of skin dose to patients undergoing five of the most commonly ordered CT procedures at our institution. The doses recorded by the exposed dosimeters were quickly estimated with good accuracy compared to quantitative measurements. To be most clinically useful, it would be helpful to extend the sensitivity range of the tested dosimeter to include higher doses typical for CT perfusion studies.