

AbstractID: 12681 Title: Testes and Uterine Dose Measurements from Scout View in Lumbar Puncture Procedure and Regular Pelvic CT Scan

Purpose: The purpose of this study was to measure the dose to testes and uterus from the scout views of lumbar puncture procedure and during a routine pelvic CT scan. **Materials and methods:** Five high sensitivity MOSFETs (TN-1002RD, Best Medical, Canada) were placed in the testes (2 dosimeters), uterus (2 dosimeters) and skin (1 dosimeter in lower abdomen area) of an adult anthropomorphic phantom (Model 701-D, CIRS, Norfolk, VA). A 16-detector array Lightspeed GE CT scanner (GE Healthcare, Milwaukee, WI) was used. The phantom was placed in a prone position during the scout views for the lumbar puncture protocol. The scan parameters for anteroposterior (AP) scout were 120 kVp and 10 mA, and for the lateral (LAT) 120 kVp and 80 mA. The doses of the AP and LAT scout views were combined. During the regular pelvic CT scan the phantom was placed in supine position and scanned helically in automatic tube current modulation at 120 kVp and 440 mA (max tube current), the noise index was 11.57 and the $CTDI_{vol}$ was 14.44 mGy. The phantom was scanned three times and the average dose was obtained for each location. **Results:** The AP and LAT doses to the testes, uterus and skin during the scout views were measured to be 0.02 ± 0.0005 , 0.04 ± 0.002 and 0.02 ± 0.007 cGy, respectively. The dose to the testes, uterus and skin during the routine pelvic CT scan was 1.8 ± 0.33 , 1.6 ± 0.08 , and 2.4 ± 0.50 cGy, respectively. **Conclusion:** The testes and uterine dose was assessed for the scout view of lumbar puncture procedure. The dose to testes and uterus was on the order of 200-400 microGy, which is, on average, 2% of the pelvic CT scan dose. We conclude that the scout view dose to the testes and uterus is negligible.