

Surgeons reach radiation limits with 291 PELDs per year

April 12 2013



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(HealthDay)—Surgeons performing minimally invasive transforaminal percutaneous endoscopic lumbar discectomy (PELD), involving fluoroscopy, are exposed to the maximum allowable radiation dose after 291 procedures performed without protective shielding, according to a study published in the April 1 issue of *Spine*.

Yong Ahn, M.D., Ph.D., from Wooridul [Spine](#) Hospital in Seoul, Republic of Korea, and colleagues assessed the occupational [radiation dose](#) absorbed by three spinal surgeons performing 30 PELD procedures (33 levels), performed according to the standard technique, during a

three-month period. Based on guidelines from the National Council on [Radiation Protection](#) & Measurements, the number of allowable procedures per year was calculated.

The researchers found that, per operated level, the calculated radiation doses were 0.0785 mSv for neck, 0.1718 mSv for chest, 0.0461 mSv for right upper arm, 0.7318 mSv for left ring finger, and 0.6694 for right ring finger. There was a 96.9 and 94.6 percent reduction in the radiation dose with use of a protective lead collar and apron. With respect to whole-body radiation, use of a lead apron would allow 5,379 operations to be performed per year compared with 291 without a lead apron. To meet the exposure limits for the eyes and hands, 1,910 and 683 operations, respectively, could be performed.

"Without radiation shielding, a surgeon performing 291 PELDs annually would be exposed to the maximum allowable radiation dose," the authors write. "Given the measurable lifetime [radiation](#) hazards to the surgeon, the use of adequate protective equipment is essential to reducing exposure during PELD."

More information: [Abstract](#)
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