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## Spinal Taps Carry Higher Risks For Infants And Elderly, Study Shows

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The study also shows that the X-ray-guided form of spinal tap, called fluoroscopy-guided lumbar puncture, causes a doubling in risk of bleeding for patients older than 80 compared to younger patients and that the risk of bleeding caused by the procedure can be reduced by doing the puncture at the middle of the lower back rather than at the lowest levels of the spine.

The full study appears in the March of the American Journal of Neuroradiology, published by the American Society of Neuroradiology.

"The purpose of this study was to look at which factors related to doing a spinal tap result in a greater chance of bleeding caused by the needle," said Annette J. Johnson, M.D., M.S., the study's senior researcher and an associate professor of radiologic sciences. "We are trying to figure out how to minimize the number of times we cause bleeding when doing this procedure."

Fluoroscopy-guided lumbar puncture is used most often to diagnose patients who have sudden severe headache, possible meningitis infection or cancers around the brain.

Doctors perform this type of spinal tap to analyze cerebrospinal fluid, which can help determine why a patient is sick. A patient who has a fever and stiff neck, for example, might have abnormal white blood cells in his cerebrospinal fluid, indicating that the symptoms are caused by meningitis, whereas the cerebrospinal fluid of a patient with a severe, sudden headache might contain a significant amount of blood, a sign of possible ruptured aneurysm.

During the lumbar puncture, a small needle is inserted into the patient's lower spine. Fluoroscopy is the use of radiation in real time to take a picture that more precisely locates where to put the needle, avoiding bone spurs and bony narrowings related to scoliosis. Sometimes the placement of the needle during the procedure causes some bleeding into the cerebrospinal fluid. This type of problem, seen in up to a quarter of cases, makes it more difficult to diagnose the patient, Johnson said, because it is hard to determine if the blood is a symptom of the condition or a result of the lumbar puncture.

"Because cerebrospinal fluid tests provide very valuable information in making the diagnoses of several serious diseases

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