

## **Josh Klepinger: Block 6 CAT**

**Utility of CT imaging of the cervical spine in trauma evaluation of ground-level fall.** Benayoun, MD., et al. *Journal of Trauma and Acute Care Surgery*. August 2016. 81 (2): 339-44.

### **Question**

Can the application of a clinical decision rule safely reduce the use of CT imaging of the cervical spine in patients presenting after a ground level fall?

### **Background**

CT imaging of the cervical spine is routinely obtained on patients presenting after a ground level fall despite many of these tests being performed on patients who do not meet criteria for imaging based on validated clinical decision rules.

### **Methods**

Retrospective study of 3,753 adults who received c-spine scans. The primary outcome was cervical spine fracture. The secondary outcome of interest was appropriateness of imaging by NEXUS and CCR criteria.

### **Results**

760 patients met inclusion criteria. Of these, seven c-spine fractures were identified, and both NEXUS and CCR criteria identified all of the fractures. Only 68% of the patients who received a scan met NEXUS indications for imaging. Approximately \$40,000 worth of ct scans were inappropriately obtained based on these decision rules over the study period. Extrapolated data suggest an annual decrease of \$15 million

### **Bottom Line**

C-spine CT scanning is over utilized in the setting of ground level fall. The application of validated clinical decision rules can safely reduce the use of CT scans while reducing radiation exposure and health care costs.

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