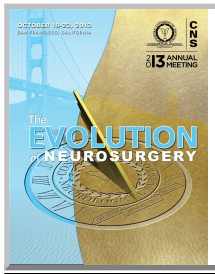

The Economic Impact of the Addition of Fluoroscopic Guidance to the Lumbar Puncture Procedure; a Call for Standardized Simulation Training

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Introduction

To evaluate the socioeconomic outcome of the addition of fluoroscopic guidance to the lumbar puncture procedure through our institutional series 2010 to 2013. To investigate the cost associated with fluoroscopic guidance which at our institution is used after failure of a blind procedure.

Methods

A retrospective analysis of 211 lumbar punctures at LSU Health Sciences in Shreveport, LA was analyzed via use of billing data since the addition of the current neuroendovascular faculty. Results were restricted to lumbar punctures performed for diagnostic (CPT 62270) or therapeutic codes (62272) with or without the addition of fluoroscopic guided placement of a needle (77003). Blind lumbar punctures performed by neurosurgery residents are not billed for by the department and therefore are not accounted for in analysis.

Results

Of 211 lumbar punctures, 88 were diagnostic. 123 were billed as therapeutic. 93 cases needed the addition of fluoroscopic guidance. This resulted directly from the failure of a blind procedure by neurosurgery residents, physician assistants, or by a consulting service. 70 patients fell under Louisiana's free care system. The department billed $80,469 and collected $13,004 for the actual lumbar puncture procedure (62270 and 62272). The most common billing cost associated with the addition of fluoroscopic guidance was $356. However, of the additional $41,649 billed only $2014 was collected. For the additional use of fluroscopy, the mode reimbursement from Medicaid was $19 and from Medicare was $41. This does not take into account the cost for the additional use of radiology technologists, procedural nursing, and recovery nursing.

Conclusions

Fluoroscopic guided lumbar punctures utilize skills and procedural time of the neurointerventionalist. Focused simulation based training of residents, which has been proven to improve lumbar puncture success outcomes, would increase cost effectiveness and reduce the use of these valuable resources.

Learning Objectives

To understand the billing implications and utilization of resources by adding fluoroscopic guidance to the lumbar puncture procedure

References

Barsuk JH, Cohen ER, Caprio T, McGaghie WC, Simuni T, Wayne DB. Simulation-based education with mastery learning improves residents' lumbar puncture skills. Neurology. 2012 Jul 10;79(2):132-7.