



Neurosurgery Residency Inadequately Prepares Trainees for Neuroendovascular Fellowship: A National Survey of Fellowship Programs.

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Introduction

Endovascular interventions have become an essential part of a neurosurgeon’s practice. Whether endovascular procedures have been effectively integrated into residency curricula, however, remains uncertain. The present survey assesses the preparedness of US neurosurgery graduate trainees for neuroendovascular fellowship.

Methods

A multidomain, global assessment survey was sent electronically to all directors/faculty of neuroendovascular fellowship programs involved in training of US neurosurgery graduates. Surveyees were asked to assess trainees as they entered fellowship. The survey consisted of 40 questions pertaining to professionalism, psychomotor ability and independent practice, clinical evaluation and management, and academia and scholarship.

Results

The response rate was 75% (24/32). Of respondent program directors, 38% reported that new fellows did not know the history and imaging of the patient they are intervening on, 46% arrived unprepared for the procedure, and 50% were unable to formulate an appropriate treatment plan. As many as 79% of respondents felt that fellows were unfamiliar with endovascular devices and 75% felt that fellows were unfamiliar with the angiographic equipment. Furthermore, 58% of fellows were unable to perform femoral access, 54% were unable to perform femoral closure, 79% were unable to catheterize a major vessel, 86% were unable to perform a 4-vessel angiogram, and 100% were unable to catheterize an aneurysm. Additionally, program directors reported that over 50% of fellows could not recognize neurovascular anatomy and anatomic variants, and 54% could not recognize/classify vascular abnormalities while 52% were unable to identify early complications. On the other hand, there was an overall agreement that fellows demonstrated professionalism and interest in research and had good communication and clinical skills.

Conclusions

This study demonstrates serious and alarming gaps in the training of neurosurgery residents with regard to endovascular neurosurgery. The lack of readiness of neurosurgery graduates may hinder their ability to benefit fully from post-graduate endovascular training. In an era of minimally invasive therapies, program directors will need to rapidly implement changes in residency curricula to keep pace with the ever changing and evolving field of neurosurgery

Learning Objectives

Neurosurgery residency inadequately prepares trainees for neuroendovascular fellowship

The lack of readiness of neurosurgery graduates may hinder their ability to benefit fully from post-graduate endovascular training

Changes must be made to the curriculum