Patient transfer

Thousands of neurosurgical emergencies are transferred yearly to a tertiary center to assume a higher level of care. Several studies have examined how neurosurgical transfers influence patient outcomes, but characteristics of potentially avoidable transfers have yet to be investigated.

Indications

Neurosurgical indications for patient transfer include absence of local or available neurosurgical coverage, subspecialty or interdisciplinary requirements, and family preference. Transfer of patients to regional centers will increase with further centralization of medical care.

To report the transfer records of a large tertiary care center to identify trends, failures, and opportunities to improve interhospital transfer of neurosurgical patients.

All consecutive, prospectively documented requests for interhospital patient transfer to the adult neurosurgical service of Emory University Hospitals were retrospectively identified from a centralized transfer center database for a 1-year study period.

Requests for neurosurgical care constituted 1323 of the 9087 calls (14.6%); 81.1% of these requests were accepted, and a total of 984 patients (74.4%) arrived at our institutions. Patients arrived from 133 unique facilities throughout a catchment area of 66 287 sq miles. Although the median travel time for transfer patients was 36 minutes, the median interval between the request and patient arrival was 4 hours 2 minutes. The most frequent diagnoses were intracranial hemorrhage (31.8%), subarachnoid hemorrhage (31.2%), and intracranial tumor (15.2%). The overall diagnostic error rate was 10.3%. Only 42.5% of patients underwent neurosurgical intervention, and 57 patients admitted to intensive care were immediately transitioned to a lower level of care.

Interhospital transfer requires a coordinated effort among hospital administrators, physicians, and staff to make complex decisions that govern this important and costly process. These data suggest common failures and numerous opportunities for improvement in transfer efficiency, diagnostic accuracy, triage, and resource allocation [1)].

Kuhn et al., evaluated 916 neurosurgical patients transferred to a tertiary care facility over a 2-year period. Transfers were classified as potentially avoidable when no neurosurgical diagnostic test, intervention, or intensive monitoring was deemed necessary (n = 180). The remaining transfers were classified as justifiable (n = 736). The main outcomes and measures were age, sex, diagnosis, insurance status, intervention, distance of transfer, length of hospital and intensive care unit stay, mortality, discharge disposition, and cost.

Nearly 20% of transfers were identified as being potentially avoidable. Although some of these patients had suffered devastating, irrecoverable neurological insults, many had innocuous conditions that did not require transfer to a higher level of care. Justifiable transfers tend to involve patients with nontraumatic intracranial hemorrhage and cranial neoplasm. Both groups were admitted to the intensive care unit at the same rate (approximately 70% of patients). Finally, the direct transportation cost of potentially avoidable transfers was $1.46 million over 2 years.

This study identified the frequency and expense of potentially avoidable transfers. There is a need for closer examination of the clinical and financial implications of potentially avoidable transfers [2].

Inter-hospital transfer

Inter-hospital transfer

Traumatic brain injury transfer

see Traumatic brain injury transfer.

1)
Holland CM, McClure EW, Howard BM, Samuels OB, Barrow DL. Interhospital Transfer of Neurosurgical Patients to a High-Volume Tertiary Care Center: Opportunities for Improvement. Neurosurgery. 2015 Aug;77(2):200-6; discussion 206-7. doi: 10.1227/NEU.0000000000000752. PubMed PMID: 25830603.
2)
Kuhn EN, Warmus BA, Davis MC, Oster RA, Guthrie BL. Identification and Cost of Potentially Avoidable Transfers to a Tertiary Care Neurosurgery Service: A Pilot Study. Neurosurgery. 2016 Aug 1. [Epub ahead of print] PubMed PMID: 27489167.