Introduction

- Little is known regarding the use of smartphones in clinical practice.
- We sought to identify the frequency of and indications for smartphone use during emergency neurological cases.

Methods

- Retrospective review of a prospective, observational, single-center simulation-based study of participants ranging from sub-interns to attending physicians.
- Simulation cases included three neurological emergencies: Acute ischemic stroke followed by tissue plasminogen activator-related hemorrhage, Viral encephalitis complicated by status epilepticus, Cardiac arrest with status epilepticus.
- Primary outcome: frequency of smartphone use
- Secondary outcomes:
  - Identification of the correct answer sought via smartphone
  - Performance by level of training:
    - Novice: neurology sub-interns and neurosurgery interns
    - Intermediate: neurology residents, medical critical care fellows, emergency medicine critical care fellows
    - Expert: neurocritical care fellows and attending physicians

Results

- Of novice and intermediate participants, those who used smartphones performed similarly to participants who did not use smartphones (smartphone users’ mean score [standard deviation] = 12.2 [3.2] vs. non-smartphone users’ mean score = 12.2 [3.8], p = .19).
- Little is known regarding the use of smartphones in clinical practice.
- Participants most likely to use smartphones are less experienced and unable to correctly identify clinical solutions using their smartphones.

Discussion

- Smartphone use was common in the care of patients with neurological emergencies but did not confer improved clinical performance likely due to incorrect utilization of resources.
- A comprehensive evidence-based smartphone application for clinical use during emergency neurological situations may improve performance among non-expert clinicians.