



Introduction

Neurosurgery program trainers are continuously searching for new methods to evaluate trainee competency in addition to number of cases and training duration. Effort is made on developments of reliable methods to teach competency as well as valid methods to measure teaching efficacy.

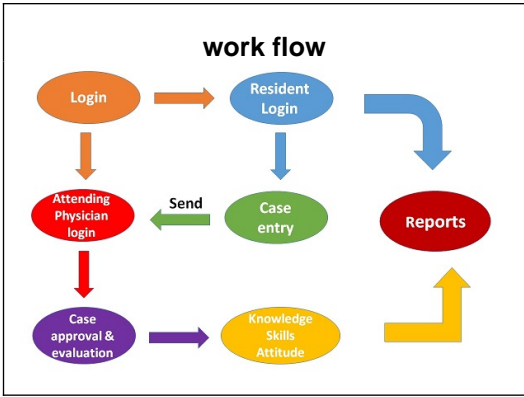
Learning Objectives

To propose a designed system that help to assess and follow the resident’s performance quality during each procedure to graduate a competent, safe and well-trained neurosurgeons.

Methods:

We developed a data based website and smart phones application for neurosurgical attending physicians, and residents in our accredited neurosurgical institution. This allows the residents, attending physicians, program directors to login. Resident should be able to enter each procedure records under case entry field as in the ACGMEE case entry method. Then Resident will have the option to save, edit or submits the procedure data to his attending physician.The later be able to approve and evaluate the resident's knowledge, skills, and attitude for that particular procedure and add his/her comments and then either save, return the data or submit. Once submitted the data will be permanent, automatically uploaded in the data based system, and can be viewed by users as a report.Program directors

can filter the data needed and monitor the resident's progress that can be presented as tables or charts, and total evaluation will be automatically calculated.



Discussion:

In a report presented by the committee on neurosurgical education of the WFNS in 1981, about worldwide survey of neurosurgical training requirements and certifying mechanisms in 61 countries and found that Training requirements and certifying mechanism varies widely between nations, however, most use the following assessment methods

including written (MCQs/essay) and/or oral exam and the list of operative logbook after the completion of the period required (1). However, there are no sufficient data about the validity, reliability and educational impact of any of the mentioned methods. In a survey of United States Neurosurgical residency program directors in 2004 found that most programs 80.6% use a training curriculum, either one developed locally or using the congress of neurological surgery curriculum. The six ACGME mandated general competency measurement for surveying residents education were considered by the vast majority of neurosurgical program directors to be difficult to understand or to have no benefit, compared with existing training evaluation methods. And the case experience tabulation method seems to require significant (36.8 %) or minor (51%) revision (2). In Dr. Lindsay's article in 2002,he mentioned that performing many operative procedures doesn't necessarily mean that the trainee has received good training; nor does it ensure that the procedure were performed well. Also he said if a training committee set a target number of procedures, the danger would be that trainees spend their time chasing operative numbers rather than ensuring that they obtain balanced neurosurgical training (3). In other study from Australia and New Zealand in 2005 to evaluate the essay examination for

neurosurgical trainees for its validity, reliability and impact, and it was found to be neither reliable nor valid. Furthermore, evidence suggests that such an examination may encourage a pursuit of declarative knowledge at the expense of competence in performing neurosurgery (4). Considering all this issues of current evaluation methods we developed this new method to assess resident's competency and progress in an easy, fast, and effective way, combining the current methods and operative skills monitoring to add more value and putting the six ACGME mandated general competency measurements into practice. By our new method, we can ensure that each trainee received good training ,and able to perform the procedure well.

Conclusion

In addition to the traditional way of resident evaluation methods, we recommend adding a more informative and objective method to asses and monitor the resident performance and progress. It will help residents to identify areas of weaknesses and strengths.Also, it enables a fair comparison between the residents as well as experience offered by different training centers. This proposed evaluation will provide a transparent assessment for the residency-training programs and should help to convert trainees into competent neurological surgeons.