

**Outcomes & Evaluation:** Our efforts to evaluate the impact of these PVCs and Expert Panels are ongoing. We have established four PVCs and are currently reaching over 6,000 US-based health care professionals. Preliminary survey findings and member interviews show increased knowledge and ability to implement certain evidence-based tools. In order for USCI to reach sustainability, we have identified a number of areas where we must adapt both our approach and platform functionality to better engage our new, US-based audience. Challenges include: members' access to an already overwhelming amount of information and updates from existing connections on established social networks such as Twitter and Facebook; less need for new virtual connections to colleagues; a desire for short-term engagements, such as videos and webinars, over text-based discussions; and an expectation of more personalized notifications and a specialized mobile application.

**Going Forward:** GHDonline is currently experimenting with video Expert Panels and Twitter chats to provide alternative engagement opportunities for this US-based audience. We are also implementing a responsive web design to improve PVC usability on mobile devices, and we are improving the underlying information architecture that powers navigation on GHDonline to more clearly tailor content to the needs of community members and highlight the benefits of joining our PVCs.

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**Abstract #:** 011TIS009

### A simplified, stature-based method for dosing antiepileptic therapy in children presenting with status epilepticus

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**Background:** Seizure disorders in children are a frequent presentation in under-resourced healthcare settings. Appropriate dosing of medication can be challenging, as dosing is based on weight, which can be difficult to obtain in emergent situations. The Seizure Tape is a flexible tape measure that provides the clinician with appropriate clinical decision guidance for seizure management including standard dosing of antiepileptic therapy for children. By measuring height only, the tape provides an immediate recommendation of dosing for common antiepileptic medications based on expected weights of the child using WHO standard growth curves, avoiding the need to weigh a child or estimate a weight in the emergent setting. Previous work in Kisoro District, Uganda, has demonstrated a high prevalence of underweight children, as measured by weight-for-age, in this district. This project evaluated the accuracy of the seizure tape in providing an appropriate recommended dose of antiepileptic medications for a cohort of Ugandan children in Kisoro, Uganda.

**Methods:** After appropriate IRB and local approval, height (cm), weight (kg), and age (mo) were collected on 167 children age th percentile of weight-for-age. Dosing recommendations within 30% of the standard weight-based ranges were considered acceptable.

**Findings:** The stature-based dosing method accurately recommended dosing of lorazepam in 87.8%, diazepam in 91.5%, midazolam in 92.0%, phenytoin in 90.9%, and phenobarbital in 93.9% of children. Doses 30% of ideal were suggested in 11.6%, 7.3%, 7.4%, 7.9% and

5.5% respectively. Child underweight status strongly predicted dosing by >30% above the maximum ideal range for all medications ( $p < 0.001$  for each), with nearly all height-based suggestions leading to doses >30% above ideal occurring in children with low weight-for-age.

**Interpretation:** The seizure tape provides a quick clinical reference for managing pediatric status epilepticus in resource-limited settings. Using a stature-based simplified dosing guide accurately dosed anti-epileptic therapy in 87.8%–93.9% of children. For significantly underweight children with low weight-for-age as determined by clinical exam at presentation, the clinician may wish to decrease the suggested dose to compensate for smaller body mass.

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### Novel use of a medical database smart phone application improves clinical learning experience during a global health rotation in Tena, Ecuador

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**Background:** Two seemingly conflicting trends are emerging among medical students: they are high-tech learners [1] and they consistently seek out global health electives in low resource areas [2, 3]. PEMSof Portable is an evidence-based electronic resource that can function on the native memory of a smart phone or tablet. We hypothesized that using PEMSof Portable would improve the perceived clinical learning experience of medical students on a global health rotation in Tena, Ecuador.

**Methods:** Sixteen medical students participated in running 8 rural clinics over a 2 week period in the area surrounding Tena, Ecuador, where they helped provide primary care services to over 1100 patients of all ages. Internet access was not available during clinics. Students served as their own controls by performing clinical work without access to PEMSof Portable for the first 4 days of clinic and then using PEMSof Portable for the last 4 days of clinic. Pre-rotation, daily, mid-rotation, and post surveys were conducted to understand student perceptions regarding the utility of the application for learning and providing care. Data from the surveys was compiled into an Excel document and analyzed for trends.

**Findings:** Compiled data from the daily shift surveys revealed that 92% of the time the medical students thought PEMSof Portable improved their clinical understanding of the Patient/Condition on a day-to-day basis. The data from the post surveys showed that 87.5% of the subjects said they would definitely recommend PEMSof Portable to a friend planning a global health elective. Finally, 100% of the medical students believed that PEMSof Portable improved their overall clinical learning experience.

**Interpretation:** It is clear from the data that the medical students believed that using PEMSof Portable improved their clinical learning experience. These results suggest this may be a way to improve the clinical learning experience of students while rotating in areas where internet access is limited. While this study had a small sample size, it still demonstrates that students find a portable point of care referencing tool enhances their learning in clinical settings. Further studies should be done to examine if there are different results for different levels of medical school training, length or location of global health experience, or types of health care delivered while working abroad.

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