

Clinical Vignettes: An Active Learning Resource for Kenyan Schools

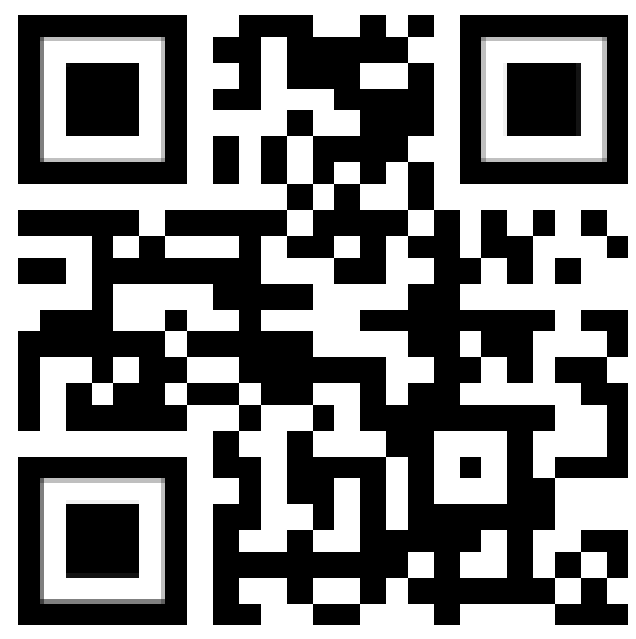
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One Good Turn

Since 2016, One Good Turn Global Health (OGT), a nonprofit global health organization, has focused on providing basic health education for the health providers in underserved villages around the world. OGT has adopted the World Health Organization endorsement of integrating health services into school settings to educate both students and staff on the common medical issues that may affect them through their life, from road accidents to non-communicable chronic diseases.

Although Kenyan education includes health education, many educators lack resources to teach this material to their students. In alignment with Kenya's new health education curriculum, OGT established a Student Health Officer training program to provide school children with a first responder and medically informed advocate in their daily environment. To accomplish this goal, OGT provides resources including detailed training sessions, reference book (OGT School Health Officer Handbook), and online course material (OGT Learn) covering 75+ health topics.



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Introduction

Vignettes:

Kenyans and other sub-Saharan African cultures have a strong tradition of oral storytelling to preserve and pass down their culture across generations¹. Stories provide opportunities to make learning engaging and memorable. Utilizing this ubiquitous practice, OGT has developed case-based learning case studies as a supplementary resource to our School Health Officer Book, a textbook detailing care for various ailments.

Deworming:

Soil- transmitted helminth (STH) infections are group of parasitic worm infections that spread through. STH Infections can lead to loss of appetite, diarrhea, and different forms of malnutrition. At least 24% of the world's population have STH infections with school-age children having a higher prevalence³. Combating this issue through school-based deworming campaigns are recommended by the WHO and are very effective; however, many communities lack the resources or knowledge to implement them. Deworming campaigns are preventative efforts through routine medication administration and hygiene education.

Burns:

Burns are the most common injury in pediatric populations in sub-Saharan Africa and Kenya. In fact, children at the age of 10 and below consist of the most common injuries in Kenya⁵. In Kenya, most burns occur to Trunk, Upper limbs, and Head/Neck Area and are due to fire or scald injuries⁵. Burns are preventative and the lack of burn education leads long-term morbidities including contractures.



(Image) - Contracture of 6 y/o child at a Kenyan School (Original)

Vignette Design

Case-based learning (CBL) is a form of active learning that involves applying theoretical knowledge with a real-life scenario². CBL is widely utilized in professional healthcare education including medical and nursing schools. Through this experiential learning process, the aim for the vignette is to put information in a realistic context.

The following provides vignette design flow and its context in deworming and burns vignette:

Presentation of Case-Study

- Scenario - Presents patient information and method of injury
- Visual Examination - Presents visual summary of ailment
- Deworming: Two students were hesitant about an upcoming deworming campaign
- Burns: Jane touches handle of boiling pot; red palm with blisters

Roleplay

- Roleplay consists of conversation between care providers and patient
- Deworming: Common concerns voiced by students about HTI and campaign
- Burns: Mother provides first aid is transitioned to local Health Officer

Teacher Knowledge Points

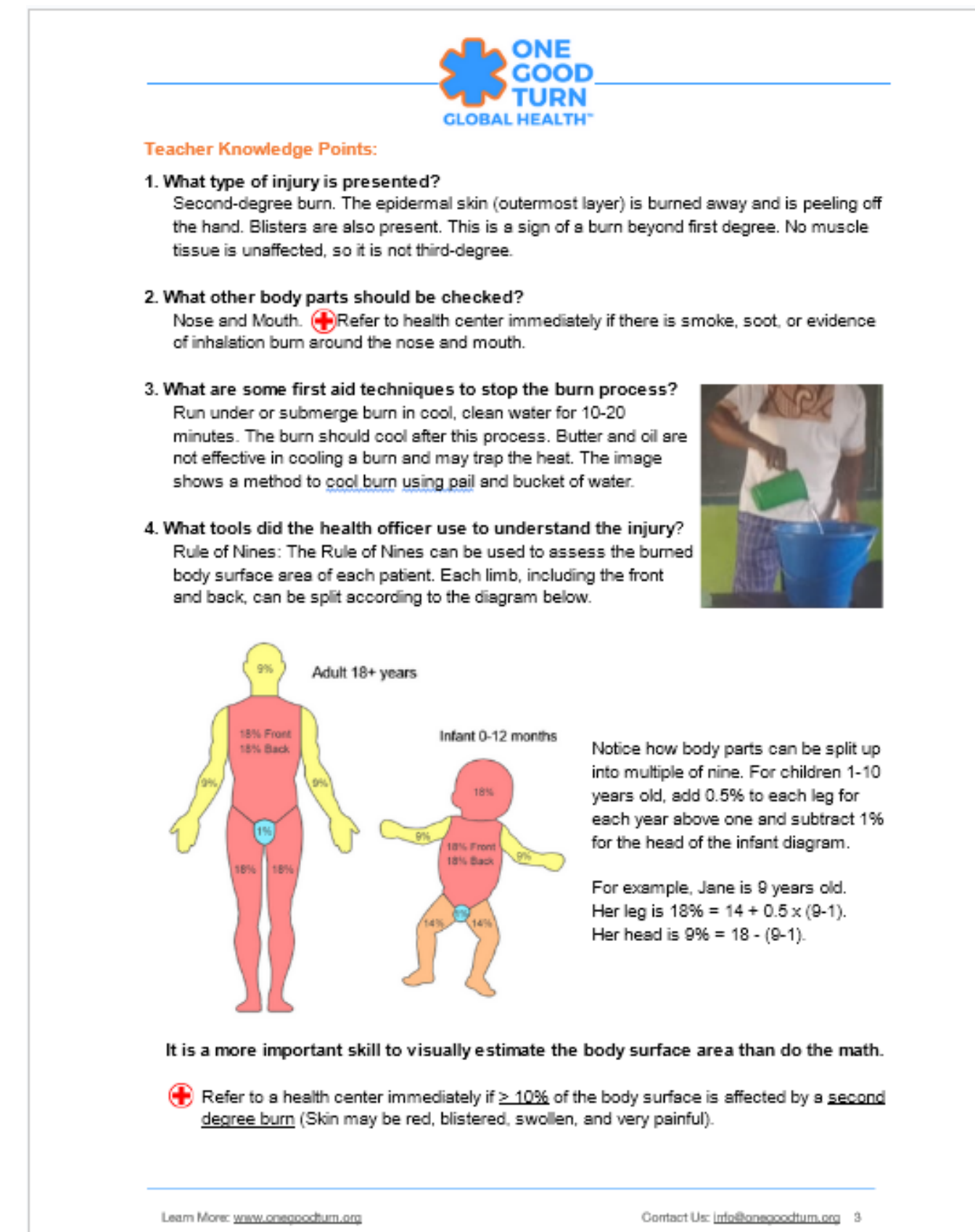
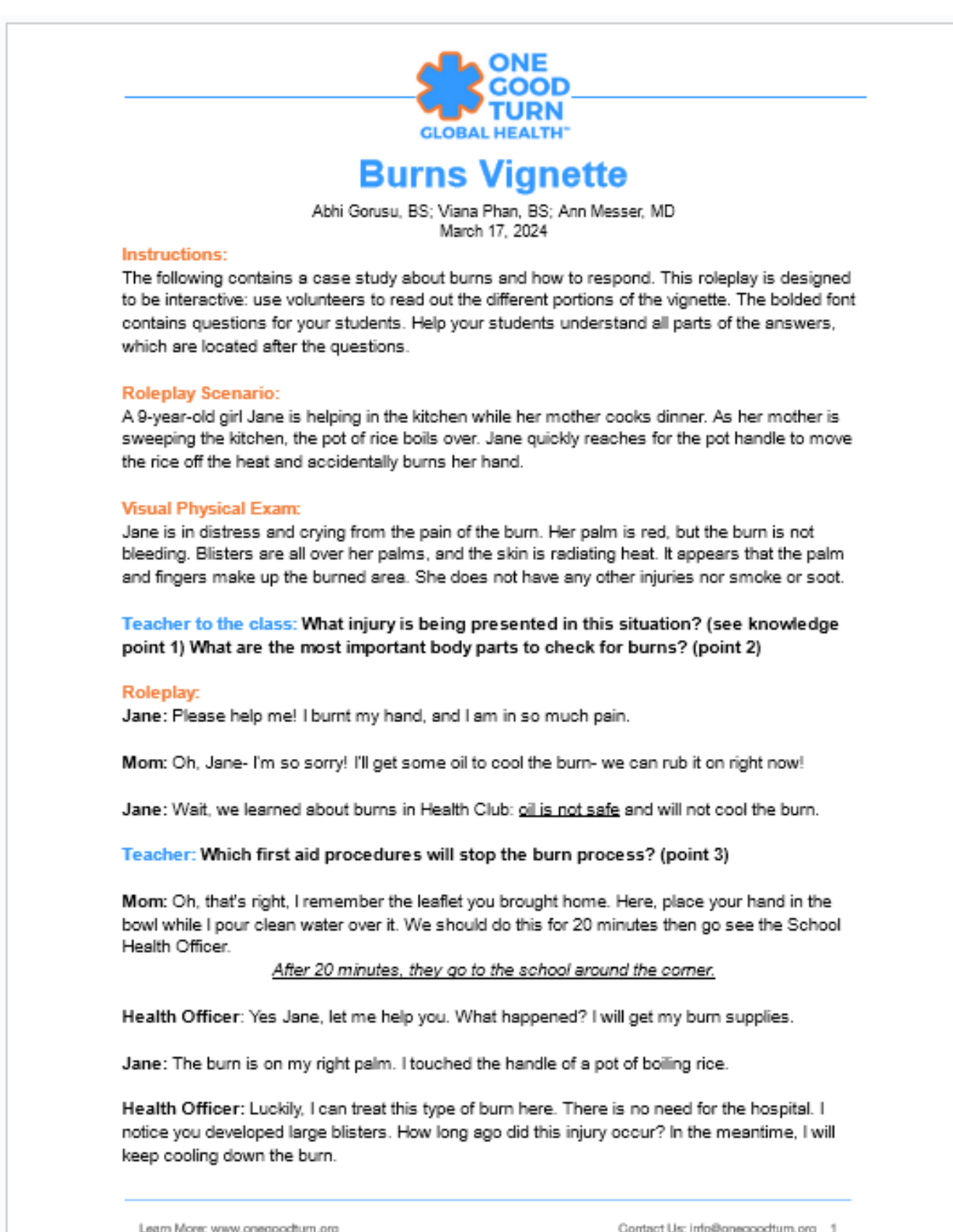
- Analytical questions are asked to students and are designed to comment on roleplay scenario
- Introduces basic care, common signs and symptoms, evaluation, etc.
- Deworming: Includes organizing deworming campaign. Focuses on signs for allergic reaction and care, etc.
- Burns: Focuses on signs of infection, changing bandages, and hospital diversion, physical therapy, etc.

Continued Roleplay/ Teacher Points

- Uses the same roleplay and Teacher Q&A format above
- Roleplay will serve to further complicate care, in addition.
- Deworming: Includes organizing deworming campaign. Focuses on signs for allergic reaction and care, etc.
- Burns: Focuses on signs of infection, changing bandages, and hospital diversion, physical therapy, etc.

Overview & Learning Objectives

- Overview provides detailed summary of care provided in vignette
- Learning objectives help teachers navigate through key points for care



(Left) - Depicts Roleplay Scenario, Visual Physical Exam, Part of Roleplay

(Right) - Depicts Teaching Points (Both) - All sections are explained above

Results/Observations

The Deworming and Burns Vignettes were instructed to over **85 educators** from 43+ schools in and around Nairobi, Kenya. Overall, The vignettes were **received very positively**.

Feedback from Educators:

A quick series of yes/no questions/observations were developed based on Icek Ajzen's theory of planned behavior questionnaire⁴. The questions were asked to the educators after instruction of the vignette

- The vignettes boosted their confidence in burn care.
- Language and formatting of vignette is excellent and easy to understand
- The scenario is something the educators can envision themselves encountering
- The methods in the vignette or teaching the vignette are not laborious to work routine
- The educators expressed good understanding of deworming before the vignette
- The educators demonstrated poor understanding of burns before the vignette
- Vignette reinforced learning and acceptance of best practices in burn wound care
- Albendazole medication, supplements, bandages and other medications were highlighted as barriers to providing medical care

Observations:

- The educators were extremely engaged in roleplaying and answering questions. (All educators were talking and participating in the activity)
- Educators were motioning through the steps of burns care and deworming through silhouettes
- The educators worked through the vignettes in small groups.



(Left) - Instructions for Deworming Vignette are being explained to a group of educators



(Right) - Educators are reading through the roleplay of the Burns Vignette

Conclusion

According the theory of planned behavior, a health behavior will be adopted through strong behavioral control, attitude, subjective norm, and intention. With high desire to learn and implement our education, the educators are likely to use our education to teach health education topics, given the proper access to medical resources. On average, each school has around 450 children, meaning our education at OGT has the potential to reach ~19,350 kids.

Key Performance Indicators:

- Vignette Use in Curriculum
- School Attendance
- Retention of Knowledge
- Practice of Habits

Future Goals:

- OGTLearn Implentation (Online Resource)
- Expansion into more schools
- Creation of More Vignettes

References

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