

**TITLE:                *SIERRA LEONE 2010 DENTAL MISSION***

**Site:                 *Abigail D. Butscher Elementary, Calaba Town,  
                              *Freeport, Sierral Leone, West Africa****

**Dates:                *June 14 to June 20, 2010***

**by  
Oswald I. Cameron, D.D.S.  
Dental Director  
The Healing Hands Foundation**

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### ***Background***

The Healing Hands Foundation (THHF) partnered with the Madiou Williams Foundation (MWF) to achieve a dental assessment, treatment and education program as part of a medical , dental and education mission to Sierra Leon, West Africa.

### ***Mission Objectives and Particulars***

The primary task of this dental mission was to assess , treat and educate students at the Abigail D. Butscher Elementary School located in Calaba Town, Freetown ,Sierra Leone To determine past, present and future oral health needs for these students and their surrounding neighborhood. Students as well as community members will be referred to as “patients”. Also to gather information including dental needs , available access or existing facilities in Freetown for the planning and implementation of Mission Sierra Leone 2011.

The dental team was comprise of Dr. Fedra Whitting, Dr.Oswald Cameron and Volunteers Kevin and Kristin Fusco with the assistance of educator team Donna & Emma Avila, Julia Williams and Greg Schnitzlein.

### ***Activities***

***Day 1- Wednesday , June 14 .Departed USA arriving in Sierra Leone  
June 15***

***Day 2- Thursday ,June 16 . Visited target location***

The school is located 1 to 2 hours drive outside Freetown, capital of Sierra Leone. Located in the rural outskirts the school is surrounded by beautiful hills with all sorts of trees and foliage, open green covered hills and fields. The neighborhood consists of family dwellings in which constant activities were observe such as gardening, water gathering, clothes washing/ tendering, cooking , children playing and family members and neighbors socializing. Both the school and surrounding community lack potable water and electricity.

The school consisted of three classrooms, headmasters office and sleeping quarters and an outside letrine divided into two sections. A non-functioning water well was located outside the school.

On our arrival to the school we were greeted by Mr. John Koroma, school Headmaster/ Principal , teacher and the students present. Due to a local celebration not all students were present at the school.

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After touring the school the dental team determined that the best place to carry on the dental activities was the Headmasters office ( 8' X 10'). The classrooms were of a larger size but avoiding disrupting the daily school activities was a priority. The choosen room was cleared of unnecessary items and surfaces cleaned utilizing Clorox Dissinfectant Wipes and Lysol Dissinfecting Spray.

This treatment area consisted of a desk, chairs (4) , floor bookshelves (2) and wall bookshelves used for dental instrument and materials placement.

### ***Day 3- Thursday, June 17***

Upon our return to the school we immediately started setting up the treatment area by decorating the walls and setup all our dental instruments materials. Sterilization of instruments to be achieved by placing instruments in cold sterilizing solution in plastic containers followed by rinsing with bottled filtered or spring water.

After set up was completed tasks were assigned to assist in crowd control, assisting both dentist, to our volunteer members Kevin and Kristin Fusco, Julia Williams and Mr. Koroma. We immediately started examining the students / patients after getting a signed consent from parent or school's headmaster. Treatment performed was limited to an oral examination and extractions. In one occasion a tartar debriment was performed.

After the students were examined and treated community members both adults and children were also examined and treated. Several times patients were treated outside due to the hot conditions inside the treatment room. Some were asked to return the following day for treatment or examination.

### ***Day 4- Friday, June 18***

Our first activity on this day was a visit to the Connaucht Hospital Dental Building in Freetown . A partial tour was given to familiarized ourselves with the available facilities for a future mission.

Upon return to the school, examination and treatment was performed on both students and community adults and children.

At the end of the time allocated for treatment we proceeded to pack up all our instruments and materials and cleaned the treatment room.

This day marked the end of the examination / treatment period of our mission.

### ***Methods and/or Techniques***

Students were directed to the treatment area by groups of 4 students at a time called out of their classroom. Examination was achieved by the use of a mouth mirror, explorer and the use of a pen light. Intraoral as well as extraoral examination was performed. Patients were seated on chairs or laying down on desk with a pillow head rest while the attending dentist was seated or standing. After the school children were examined community members were also examined. A dental screening / treatment form was used filled out with the patient's information, consent , findings, treatment , etc. Both groups were treated (extractions)

Some patients already treatment planned for extractions were anesthetized in advanced prior to the extraction. After procedures were performed postoperative instructions as well as medication was given where needed.

Due to the lack of many amenities such as running water, electricity, and dental equipment such services as restorative, periodontics, endodontics and prosthodontics were not able to be provided. Certainly the need for these services are evident.

Some relief from the hot conditions was achieved by the use of portable battery-operated fans and availability of cold bottled water.

### ***Outcome***

The dedication, sacrifice and output of energy and diligent service exhibited by the attending dentists and volunteers was beyond the call of duty. This was evident by the adaptation to the expected and unexpected conditions and experiences exhibited prior, during and after the performance of our duties. This led to an extraordinary achievement or accomplishment that are summarized as follows:

Total Students Examined: \_\_ 165 \_\_\_\_\_

Total Community Members: \_\_ 38 \_\_\_\_\_

Total Patients Examined: \_\_ 203 \_\_\_\_\_

Total Extractions Performed: \_\_ 82 \_\_\_\_\_

Total Students with Restorative Needs: \_\_ 40 \_\_\_\_\_

Total Students with no treatment needed: \_\_ 110 \_\_\_\_\_

It was evident the immense need for dental treatment in the community which will require additional equipment, materials and time.

## ***Experiences and Findings***

The lack of electricity and potable water were the most important factors that limited the dental services to extractions only. If these amenities or utilities were available portable dental equipment can be utilized increasing the delivery of available dental care services such as restorations and dental cleaning in a more safer and efficient manner. It will also facilitate the performance of procedures such as extractions.

The lack of proper lighting (illumination) and ventilation were discomforts that certainly can be improved or eliminated allowing a more comfortable environment for both the patient as well for the participating doctors and assistants.

Sterilization of instruments by the use of liquid chemicals was the only available method for this mission. With an electric steam autoclave the risk of cross contamination for all those involved including the patient diminishes immensely.

The lack of comfortable dental seating for both patient and doctor had to be endured.

With the available chairs, desks and bookshelves seating and positioning was accomplished the best possible way allowing for the performance of services.

Crowd control was achieved very well by utilizing volunteers and local staff. It was very helpful that some spoke the local or native language allowing getting the correct information from the patients, treatment explanation and given them postoperative instructions.

Constant overcrowding occurred in our working area due to the lack of other areas for members to rest or seek shelter from the sun and heat.

Sanitary facilities can perhaps be improved by installation of toilet seats over a built in concrete base bearing in mind the prevention of accidental "falling in" by children of small stature.

In the examined student/children population approximately 65 % did not exhibit dental conditions such as decay, abscessed teeth nor gross plaque or calculus (tar). The need for restorations due to decay was seen in approximately 20% . Extractions were performed on 15% of this population. However the need for preventive treatment such as prophylaxis (dental cleaning), sealants (protective anticavity coating) and fluoride application was evident.

Probably the main factor that has resulted in such a low incidence of dental problems can be attributed to the lack of a high sugary diet.

The adult population that requested to be examined and treated consisted in cases of rampant decayed teeth which required extractions. The lack of accessible dental treatment in the community certainly lead to worsening of preventable dental conditions. Decayed , missing teeth and moderate calculus was prevalent in this adult population

It was evident that oral hygiene is practiced by the majority of the population. Tooth brushes as well as the use of pieces of the branch from a particular tree are common.

## ***Suggested Improvements***

With the availability of electricity and potable water ***portable dental equipment*** can be introduced increasing the scope of treatment to include restorations, dental cleaning, and other treatment modalities. It will improve the comfort level of the surrounding environment by being able to utilize air fans and better lighting. ***This can be achieved by the use of portable electric generators.***

A larger space will allow for installation or use of portable dental chairs improving the positioning for both providers and patients allowing for proper seating resulting in faster and more comfortable delivery of services which will eventually result in more patients been treated.

***Portable dental equipment should consist of : air compressor, delivery system, patient's chair, doctor's stool and halogen lamp. Accessory equipment for dental cleaning should also be included. Portable dental xray machine with digital software installed in a laptop computer will certainly be an asset assisting in the diagnosis of dental conditions.***

***Patient education as well as distribution of toothbrushes , paste and dental floss will greatly assist in the prevention or control of dental disease.***

Depending on the targeted population and the size of facilities the number of dental providers can be established to meet the needs.

Additional space for members to rest or shelter will avoid overcrowded space.

## ***Summary***

Our mission to examine the student population from the Abigail D. Butscher Elementary School and alliviate any suffering from a dental condition was accomplished with great success thanks to the extraordinary efforts exhibited by the attending dentists with the assistance of volunteers. In addition many factors were identified that can improve the overall health of this population. However, improvements could have been achieved with the availability of needed utilities such as electricity, potable water and necessary dental equipment.

In our next planned mission having access to the dental facilities at Connaucht Hospital in Freetown will give access to the students and community members to receive better preventive and restorative dental care. A team of approximately 5 General Dentists and two or three dental hygenist can accomplish the provision of dental care to a substantial population. With the use of existing dental equipment (some in need of repair) and

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perhaps the addition of portable dental equipment the objective accomplishment can be met.

Many factors have to be taken in consideration in order to eliminate those issues that prevents this population from having better access to dental care including government and community policies.