The Haitian Earthquake, January 2010 Despair & Hope

The Wound Care Experience

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Conflict of interest: none

"It's Gettysburg"…. "It's Waterloo"

Dr. John Macdonald arrived 48 hours after the Haitian earthquake with a small contingent of physicians from the University of Miami School of Medicine. With more than 10.5 million people affected (240,000 died in the first hours), considering population and country size, it is believed to be the greatest, recorded, natural disaster in history. See figure 1.

In the hastily created University of Miami tent hospital, supplied by the United nations, in the first hours, we had 7 physicians, no nurses and minimal medical supplies for 140 + patients. Men, women and children – many sudden orphans. Without the most basic of medical supplies our small team, collectively, was overcome by a feeling of worthlessness. As we moved from patient to patient we quickly addressed blood soaked improvised dressings, cardboard splints, crushed limbs, cluttered waste stained floors and flies. In the beginning, our only analgesic medications were tablets of morphine. Our most important support was the adequate availability of I.V fluids.

Immediately it was apparent that a structured wound team was an absolute necessity. 80% of the patients brought to our facility had open wounds. We performed our first amputation outside the medical tent, using Versed (Roche) and Ketamine (Pfizer). Our approach to wound care was to stick to the basics: debride, keep the wound moist, provide betadine and/or peroxide, and use antibiotics, Coban (3M), and Silvadene (Monarch Pharmaceuticals). Silvadene became like gold. KCI was overwhelmingly generous, providing as many as 40 negative pressure therapy systems to run on generators. Because of a lack of sterile instruments and basic sanitation, closed fractures were treated with external fixation and plaster splints when possible. Cholera, and typhoid were ever-present, growing concerns.

The wound care program and the orthopedic service became the central active services. In the first 2 weeks, we had the luxury of 2-3 knowledgeable wound clinicians and they would quickly train volunteers from every specialty to become members of the wound care team. 8-13 team members eventually were working 12 hour shifts. Designated wound teams and a wound care dispensary were created and the wound program was divided into 4 sections:

1) Bedside teams for rounds on adult patients needing scheduled dressing changes;
2) a pediatric surgical section for all wound treatments requiring conscious sedation;
3) an adult surgical section for major debridement and NPWT application, with conscious sedation, and;
4) an outpatient clinic for follow up of discharged wound patients.

Irrigation, debridement, short term topical antibiotics, and moisture control and silver-based dressings formed the mainstay of wound care. The majority of patients suffered from crush injury with a wide variety of wounds (figure 2).

Haiti by the numbers
Population – 10.5 million
Directly affected – 3 Million
Death estimate – 240,000
Buried in mass graves – 7000 +
Injured estimate – 300,000
Homeless – 1.5 million
Living in tent cities – 700,000
Amputations – > 4000
Orphans before earthquake – 380,000
Hospital beds before earthquake – <1000

Figure 1

Wound Presentation
Crush injury-laceration, avulsion
Compound fractures
Compartment Syndrome
Superior Vena Cava Syndrome
Post op amputations
Split thickness skin grafts
External Fixation
VAC application and Maintenance
Burns

Figure 2

Figure 3

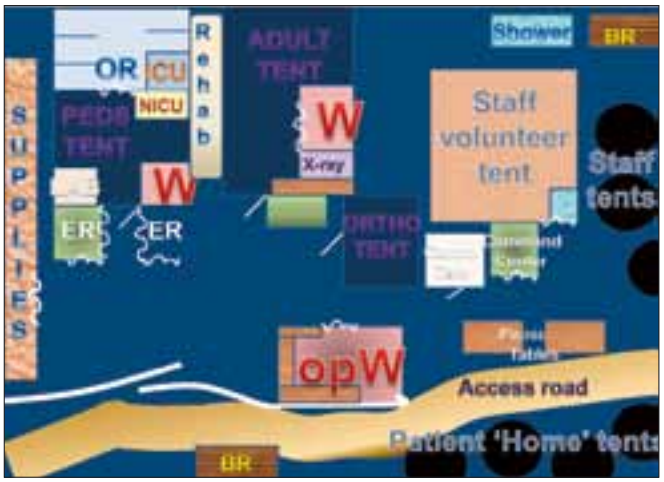

Figure 4

Living conditions were very difficult – initially, we slept on the floor of the medical tents, mostly consuming only water, granola bars, and cold, canned chicken soup. In the first weeks there were three outside showers for 80 medical personnel. Initially we were forced to use ditch plowed latrines. After 8 days, the patients were moved to a new location within the confines of the Port-au-Prince international Airport. Four large canvas event tents, (5000 sq. ft of sheltered area each) with limited air conditioning were constructed within 4 days (figure 3, 4). Each of two tents were established for adult and pediatric patients, respectively. The other two tents were established for faculty quarters and supplies. Four major operating rooms and an intensive care unit were housed within the tents. A separate tent for outpatient wound care was placed in front of the medical complex. Pediatric and Adult wound care, conscious sedation areas were placed in the two inpatient tents. The daily patient census averaged 160-180 patients. There was no running water. On day 20, the Dominican Republic began to deliver Styrofoam boxes of rice and beans as food for both patients and faculty. Bottled water was our lifesaver. The temperatures averaged 93 degrees F during the day. Mosquitoes at night were a constant irritation.

And then, hour by hour, day by day, madness began to resolve and chaos began to have some order. Certainly things were improving with incoming supplies, skilled volunteers, surgical suites, cots and tents for the faculty. A life saved, a wound properly dressed. A better selection of Granola bars and available-if disgusting Porte-Potties! The medical teams were functioning as organized divisions. Finally, critical patients were allowed to be evacuated to the States and the positive faces of the US military working beside us filled us with American pride (figure 5).

In the beginning, the medical teams sensed a feeling of helplessness and for many personal spiritual despair. But, soon the negative emotions of the first days became for us a soft, energizing nirvana that originated in the resilience and faith of the Haitian people. A striking acceptance of suffering. The expressions of unconditional gratitude for any measure of care. And at night when the wards would fill with Creole singing – "Jesus Thank you for loving us" we wept together.

For the volunteers our lives became situated in the here and now. Inessentials disappeared. The prevalent atmosphere became joyfully resourceful, generous, empathic and brave. The ache of existential despair was replaced by a spiritual grace derived from human hope, generosity and solidarity. We had a glimpse of who else we may be and what else our lives and our society could become. We had a sense of membership in something special – being human. We were each our brother and sister's keeper.

We knew we had to bring some order to the disorganization; we felt strongly that we had to get the Haitian people involved in our efforts. Therefore, in February, the World Alliance for Wound and Lymphoedema Care, WAWLC met with the Haitian Ministry of Health and the Haitian Medical Society. Now scheduled for July, the WAWLC will conduct a three day seminar on the Fundamentals of Effective Wound Care in Port-au-Prince. To date 20 + Haitian clinicians have registered for the course. It is intended that the Haitian clinicians will then assume responsibility for the University of Miami-Medishare Wound care program. From this disaster, Haiti will establish their first Wound Care Center of Excellence.

Wound care by the numbers
80% – Patients with wounds
140 – Amputations first 30 days
160 – Ave. wound dressings / day
40 – NPWT in daily operation
75 – Wound outpatients per day
6-15 – Wound team members
6-8 days – Average tour of duty
1-2 – Showers during tour of duty

Figure 5