Preparing for Disaster

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Team Physician Northwestern/US Soccer
Chicago Blackhawks
Objectives

• Unique Medical Conditions
• Mass Event preparedness
• Implementing NIMS ICS in Mass sporting events
• Innovative educational tools
• How we have adapted and applied EMS philosophies in the arena of sport
“Surge”

• Preparing for the surge: perspectives on marathon medical preparedness.
• **Chiampas G, Jaworski CA.**

**Source**

• Bank of America Chicago Marathon, Chicago, IL 60611-3008, USA.
  gchiampas@comcast.net

**Abstract**

• In preparing for medical coverage of a mass participation event such as a marathon, race directors and their medical staff members need to account for the unexpected. Extremes in weather as well as the potential for outside threats need to be given consideration before race day in order to adequately prepare. Through the recruitment of local expertise from various agencies in one's community during both the planning stages, and on race day, the added stressors of such extremes will be minimized, if not eliminated. This article will provide concrete examples of how the Chicago Marathon has used its own experiences with such extremes. Readers will be given useful tools to implement in their own marathons or other mass participation events-planning to equip them better for the unexpected surge.
The Scene of a Disaster

• What types of disasters can happen in Chicago?
Mass Events “Headlines”

- Boston Marathon 2012: Hot Temps Send More Than 100 Runners To Hospitals
- When a Marathon Goes Wrong
- Pittsburgh Marathon Bomb: Explosive Device Found On Course Of ...

- 2013 Boston-”Game Changer”
Key Points

• Poor communication is the cause of most preventable deaths.
• Information is always inaccurate
• Bystanders are both a benefit and a burden
• Ensure scene safety
• Manage traffic and people
• Establish a command center
2nd Largest marathon in the World
World Marathon Majors

- Viewed as a Leader in the sport
Chicago Marathon – Event Metrics

- Total Registered: 45,000
- Total Start: 33,000-39,000
- Total Finished:
  - 95% finish rate (2008)
  - 97% historical finish rate
- 1st Time Marathoners: 16,000
- Charity Runners: 7,000
## BOACM Medical Metrics

<table>
<thead>
<tr>
<th>METRIC DESCRIPTION</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
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</thead>
<tbody>
<tr>
<td>Temperature (° F) – 8 AM / 2 PM</td>
<td>52 / 57</td>
<td>40 / 43</td>
<td>74 / 88</td>
<td>64 / 83</td>
<td>32 / 43</td>
<td>69 / 82</td>
<td>60 / 79</td>
</tr>
<tr>
<td>Humidity (%) – 8 AM / 2 PM</td>
<td>74 / 64</td>
<td>85 / 64</td>
<td>80 / 47</td>
<td>75 / 41</td>
<td>66 / 37</td>
<td>50 / 36</td>
<td>67 / 34</td>
</tr>
<tr>
<td>Event EMS Transports (TOTAL)</td>
<td>88</td>
<td>78</td>
<td>182</td>
<td>155</td>
<td>78</td>
<td>220</td>
<td>135</td>
</tr>
<tr>
<td>Event EMS Transports to Med Tents</td>
<td>59</td>
<td>63</td>
<td>108</td>
<td>70</td>
<td>57</td>
<td>120</td>
<td>75</td>
</tr>
<tr>
<td>Event EMS Transports to Hospitals</td>
<td>29</td>
<td>15</td>
<td>74</td>
<td>85</td>
<td>19</td>
<td>100</td>
<td>60</td>
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<tr>
<td>CFD EMS Transports (runners) to Hosp.</td>
<td>0</td>
<td>0</td>
<td>50+</td>
<td>0</td>
<td>0</td>
<td>8-9</td>
<td>5</td>
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<tr>
<td>Runners in Finish Medical Tents</td>
<td>459</td>
<td>266</td>
<td>515</td>
<td>458</td>
<td>293</td>
<td>711</td>
<td>414</td>
</tr>
</tbody>
</table>
Medical Issues-Is Running safe

• Exercise Assoc Collapse
• Heat Illness
• Cold Illness
• MSK Injuries
• Cardiac
• Medication/Stimulant use
• Hyponatremia
• Underlying medical issues
• 2-10% Medical Encounters
History: Incident Command/Unified Command Structure

- National Incident Management System (NIMS) [www.nims.com](http://www.nims.com)
- Incident Command Structure (ICS) - management system designed to enable effective and efficient incident management by combining facilities, equipment, personnel, procedures and communication in one organized structure—Unified Command
Marathon Operations – Unified Command – Who should be involved?

- Groups / individuals in Unified Command
  - Event Incident Commander (Race director)
  - Event Medical Director
  - Event EMS (Superior) Private Ambulance
  - Event Weather Update
  - Event Medical Information
  - Event Course Updates
  - Event Course Command
  - Event Runner Dropout
    - Big City Events (transportation) & Runner Dropout communications team
- City Agencies
  - CFD, CPD, OEMC MOSE, Department of Health
  - CTA (Transit authority), Traffic Mgmt, Streets & Sanitation, Park District
- MABAS
- American Red Cross

- Unified Command facility in Start / Finish area
- Planning process
  - Multiple large group meetings and smaller focused meetings through the year
• Using community events as a disaster exercise
  Organizes: Police, ambulances, volunteers, medical personnel, Red Cross, Streets and Sanitation, food/water distribution, Businesses and Corporations

  Establishes command center, communication plan, evacuation routes.

  Prepares for
Incidence Action Plan

- Physician oversight
- Medical reconnaissance
- EMS services
- Level of Care
- Human resources
- Medical equipment
- Treatment facilities
- Continuous quality improvement

- Transportation resources
- Public health elements
- Access to care
- Emergency medical operations
- Communications
- Documentation
Map

Zones
Diversions
Aid Station Captains

2008 Bank of America Chicago Marathon Operations Course Map

- Mile Marker
- Kilometer Marker
- Aid Station
- Continental Medical, Toilets, Gatorade, Water
- Extra Fluids
- Toilets
- Medical
- Food On-Course
- Motivational Signs
- On-Course Video
- Cooling/Sponge Station
- Hospital

- Bank of America Cheer Zones
- Nike Cheer Station & Motivational Zone
- McDonald's Runner Update Center
- Energizer, Keep Going! Zonets

For more Energizer and Bank of America locations, visit americana.com
Enhancing Community Disaster Resilience Through Mass Sporting Events

Danielle M. McCarthy, MD; George T. Chiampas, DO; Sanjeev Malik, MD; Kendra Cole, MD; Patricia Lindeman, RN, MBA; James G. Adams, MD

ABSTRACT

Disaster response requires rapid, complex action by multiple agencies that may rarely interact during nondisaster periods. Failures in communication and coordination between agencies have been pitfalls in the advancement of disaster preparedness. Recommendations of the Federal Emergency Management Agency address these needs and demonstrate commitment to successful disaster management, but they are challenging for communities to ensure. In this article we describe the application of Federal Emergency Management Agency guidelines to the 2008 and 2009 Chicago Marathon and discuss the details of our implementation strategy with a focus on optimizing communication. We believe that it is possible to enhance community disaster preparedness through practical application during mass sporting events.

(Disaster Med Public Health Preparedness. 2011;5:310-315)

Key Words: marathon, communication, disaster preparedness
Forward Command

• Unified and coordinated communications center for mass gathering
Unified Command

- Forward Command
Unified Command

- Visual of Course
The Chicago Model

• Developed to more effectively organize and operate events such as marathons or other mass participation events
• Bring together all major organizations (e.g., race organizers, fire and police departments, emergency management, Red Cross) to coordinate preparation and response for the event and surrounding areas impacted by the event
• Integrated organizational structure is complemented by a comprehensive medical tracking system which allows users to monitor medical coverage in real time during the event
• The information system allows Incident Commanders to access key data fields in real time to assist in decision making

• Since 2008, used at the Chicago Marathon and the Shamrock Shuffle
• Adopted by similar events in other cities
“Chicago Model”

• Shamrock 2013
Medical Logistics: Medical Resources

• Grant Park
  - Finish Line Code Team
    ▪ Egress - East side of Columbus
    ▪ Medical Tent in Grant Park (20x60) – Balbo & Columbus
  - Street pole numbering
    ▪ Columbus, Jackson, Congress & Balbo street poles are all identified
    ▪ Utilize for security, emergency and operational response

• Course
  - Medical Tents on Course (26.2 mile course) – Quantity 21
  - AEDs on Course
    ▪ Aid Station Medical Tents – Quantity 21
    ▪ Balbo Medical Tent at Finish Line – Quantity 1
    ▪ Jackson Medical Tent – Quantity 1
    ▪ Operations Compound (Balbo between Columbus & LSD) – Quantity 1
Chicago Marathon – Event Alert System (EAS)

<table>
<thead>
<tr>
<th>ALERT LEVEL</th>
<th>EVENT CONDITIONS</th>
<th>RECOMMENDED ACTIONS</th>
<th>TEMP</th>
</tr>
</thead>
<tbody>
<tr>
<td>EXTREME</td>
<td>EVENT CANCELLED/EXTREME AND DANGEROUS CONDITIONS</td>
<td>PARTICIPATION STOPPED/ FOLLOW EVENT OFFICIAL INSTRUCTION</td>
<td>WBGT &gt; 82° F</td>
</tr>
<tr>
<td>HIGH</td>
<td>POTENTIALLY DANGEROUS CONDITIONS</td>
<td>SLOW DOWN/OBSERVE COURSE CHANGES/FOLLOW EVENT OFFICIAL INSTRUCTION/CONSIDER STOPPING</td>
<td>WBGT 73°-82° F</td>
</tr>
<tr>
<td>MODERATE</td>
<td>LESS THAN IDEAL CONDITIONS</td>
<td>SLOW DOWN/BE PREPARED FOR WORSENING CONDITIONS</td>
<td>WBGT 65°-73° F</td>
</tr>
<tr>
<td>LOW</td>
<td>GOOD CONDITIONS</td>
<td>ENJOY THE EVENT/ BE ALERT</td>
<td>WBGT 40°-65° F</td>
</tr>
</tbody>
</table>

- WBGT - Wet Bulb Globe Temperature
- Colder temps:
  - 32-40° F Yellow
  - Less than 32° F Red or Black depending on wind, precipitation
<table>
<thead>
<tr>
<th></th>
<th>Expo</th>
<th>Start/Finish</th>
<th>Course</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flyers</td>
<td>Exhibitors Participants &amp; Volunteers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Signage</td>
<td>Information Towers</td>
<td>Info Towers VMS Boards</td>
<td></td>
</tr>
<tr>
<td>EAS Flags</td>
<td>Throughout hall</td>
<td>Start Line, Info Tents Gear Check Volunteer Compound</td>
<td>(20) Aid Stations</td>
</tr>
<tr>
<td>Credentials</td>
<td>Volunteers Staff Exhibitors</td>
<td>Volunteers Staff</td>
<td>Volunteers Staff</td>
</tr>
<tr>
<td>P.A. Scripts</td>
<td>Main Stage</td>
<td>Start/Finish Line, Post Race Party, Charity Villages Volunteer Compound Gear Check Tents</td>
<td>(20) Aid Stations Course Activations</td>
</tr>
</tbody>
</table>
Communication tools
Event Alert System
Incident Response: Course Zones

- Course Zones/Hospitals
  - Zone A (Aid 7-9): Norweigian, St. Mary’s, IL Masonic
  - Zone B (Aid1-6): Thorek, St. Joe, Weiss, IL Masonic, NW
  - Zone C (Aid 16-21): Mercy, UofC, NW, St. Bernard’s
  - Zone D (Aid 10-15): Stroger, UIC, Rush, St. Anthony, Mt. Sinai

- Aid Station Locations
- Main Medical Facilities
- Mile Markers
- Course Diversions
# Shelters: Course Shelters

<table>
<thead>
<tr>
<th>Name</th>
<th>Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grant Park Garage South</td>
<td>325 South Michigan Avenue</td>
</tr>
<tr>
<td>Grant Park Garage North</td>
<td>25 North Michigan Avenue</td>
</tr>
<tr>
<td>Millennium/East Monroe Garage</td>
<td>5 South Columbus Drive</td>
</tr>
<tr>
<td>Lower Columbus Underpass</td>
<td>150 North Columbus</td>
</tr>
<tr>
<td>Harold Washington College</td>
<td>30 East Lake</td>
</tr>
<tr>
<td>Latin School</td>
<td>59 West North Blvd</td>
</tr>
<tr>
<td>Palmer House</td>
<td>17 East Monroe</td>
</tr>
<tr>
<td>Moody Bible Institute</td>
<td>820 North LaSalle</td>
</tr>
<tr>
<td>Chicago History Museum</td>
<td>1601 North Clark</td>
</tr>
<tr>
<td>Peggy Notebaert Nature Museum</td>
<td>2430 North Cannon</td>
</tr>
<tr>
<td>Resurrection Health Parking Garage</td>
<td>2913 North Commonwealth</td>
</tr>
<tr>
<td>Nettlehorst School</td>
<td>3252 North Broadway</td>
</tr>
<tr>
<td>Francis W. Parker School</td>
<td>330 West Webster</td>
</tr>
<tr>
<td>Piper's Alley Parking Garage</td>
<td>210 West North Avenue</td>
</tr>
<tr>
<td>East Bank Club</td>
<td>550 North Kingsbury</td>
</tr>
<tr>
<td>Merchandise Mart</td>
<td>222 Merchandise Mart Plaza</td>
</tr>
<tr>
<td>Union Station</td>
<td>225 South Canal</td>
</tr>
<tr>
<td>Oglove Station</td>
<td>504 West Madison</td>
</tr>
<tr>
<td>Whitney Young High School</td>
<td>211 South Lafflin</td>
</tr>
<tr>
<td>Malcolm X</td>
<td>1900 West Van Buren</td>
</tr>
<tr>
<td>United Center</td>
<td>1901 West Madison</td>
</tr>
<tr>
<td>UIC Rec Center</td>
<td>799 West Polk</td>
</tr>
<tr>
<td>St Ignatius Gym</td>
<td>1076 West Roosevelt</td>
</tr>
<tr>
<td>Rush Parking Garage</td>
<td>1630 West Taylor</td>
</tr>
<tr>
<td>Perez School</td>
<td>2001 South Throop</td>
</tr>
<tr>
<td>Walsh School</td>
<td>2031 South Peoria</td>
</tr>
<tr>
<td>Joseph Jungman School</td>
<td>1746 South Miller</td>
</tr>
<tr>
<td>Connie's Pizza</td>
<td>2373 South Archer</td>
</tr>
<tr>
<td>Post Office/Library Parking Garage</td>
<td>2345 South Wentworth</td>
</tr>
<tr>
<td>De La Salle Institute</td>
<td>3455 South Wabash</td>
</tr>
<tr>
<td>U.S. Cellular Field</td>
<td>333 West 35th Street</td>
</tr>
<tr>
<td>McCormick Place</td>
<td>2301 South Lake Shore Drive</td>
</tr>
<tr>
<td>Soldier Field Parking Garage</td>
<td>1410 South Museum Campus</td>
</tr>
<tr>
<td>Harold Washington Library</td>
<td>400 South State Street</td>
</tr>
</tbody>
</table>
Course Medical
Course
Simulation Learning

The Collapsed Athlete

- Absent/Unstable Pulse and Resp
  - AED
    - Shockable Rhythm
      - Yes
        - VFib/Vtach
          - CPR Transport
        - Other cardiac/respiratory causes
          - Collapsing Cardiac Anaphylaxis
            - Heat Exhaustion
            - Illness specific treatment
          - Exercise Associated Collapse
            - Oral Fluids Elevate Legs
      - No
    - Normal Mental Status
      - Collapse In-Exercise
      - Collapsed Post-Exercise

- Stable Vitals
  - Abnormal Mental Status
    - Seizure, Tox, CVA Cardiac Heat Exhaustion
      - Illness specific treatment
    - Hypoglycemia
      - Administer D50, Glucagon
    - Exertional Heat Stroke
      - Rapid Cooling
    - Hyponatremia
      - Fluid Restrict 3%NS
    - Hypothermia
      - Passive External Rewarming

- Normal T, Glu, Na
  - Glu<60 T>40°C
  - Na<135 T<35°C
Educational Interventions

• Interactive Power point
• Sent to all medical volunteers to review basic algorithm
• Formal study of Superior Ambulance personnel
“Hands Only CPR” Community and Running Initiative 2012

• “Latest News”

• What additional measures can we take?
CPR for First Responders

- Hands-Only CPR video
- CERT personnel on each patient transport bus
- First Responders placed in run-up to finish line

Figure 1. Location of Cardiac Arrest According to Race Quartile.
To account for differences in race distance between the marathon (26.2 mi) and half-marathon (13.1 mi), the point in the race course where the cardiac arrest occurred was examined as a function of the total race-distance quartile. Q1 denotes 0 to 6.5 mi (marathon) and 0 to 3.3 mi (half-marathon), Q2 6.5 to 13.1 mi (marathon) and 3.3 to 6.5 mi (half-marathon), Q3 13.1 to 20 mi (marathon) and 6.5 to 10 mi (half-marathon), and Q4 20 mi to finish (marathon) and 10 mi to finish (half-marathon).
Cardiac Arrests at Marathons

Jonathan H. Kim, M.D., Rajeev Malhotra, M.D., George Chiampas, D.O., Pierre d’Hemecourt, M.D., Chris Troyanos, A.T.C., John Cianca, M.D., Rex N. Smith, M.D., Thomas J. Wang, M.D., William O. Roberts, M.D., Paul D. Thompson, M.D., and Aaron L. Baggish, M.D., for the Race Associated Cardiac Arrest Event Registry (RACER) Study Group
Patient tracking
Red Cross Patient Connection
Go Marathon!
MPTS Web Application – American Red Cross

**American Red Cross**
- **Contacted**: Yes, 9/13/2012 8:23:35 AM
- **Contacted Note**: Contacted D. Nishi
- **Reunited**: Yes, 9/13/2012 8:24:37 AM
- **Reunited Note**: Reunited w/ Spouse

**Check Out Details**
- **Status**: 2
- **Note**: Patient is feeling better
- **Check Out Time**: 9/13/2012 8:20:19 AM
- **Check In Stuff**: Suerte, Glen

**Check In Details**
- **Wrist Band**: 4002
- **Bed**: Balbo Medical Tent - ICU
  - **Section**: ICU-A
  - **Bed**: ICU-1
- **Note**: Severe Dehydration and muscle cramps
- **Check In Time**: 9/13/2012 8:13:16 AM
- **Check In Staff member**: Suerte, Glen
- **Needs Language Assistance**: Y
- **Inform Emergency Contact**: Y

**Diagnoses Details**
- **Dehydration**
- **Muscle Cramps**
MPTS Web Application – Occupancy

### Baibo Medical Tent - General Care

<table>
<thead>
<tr>
<th>Tents</th>
<th>Summary</th>
<th>Occupancy</th>
<th>Runner Transport Bus</th>
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<tbody>
<tr>
<td>SC-1</td>
<td>GC-11</td>
<td>GC-12</td>
<td>GC-27</td>
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<tr>
<td>SC-3</td>
<td>GC-15</td>
<td>GC-16</td>
<td>GC-30</td>
</tr>
<tr>
<td>SC-5</td>
<td>GC-19</td>
<td>GC-20</td>
<td>GC-31</td>
</tr>
<tr>
<td>GC-25</td>
<td>GC-26</td>
<td>GC-26</td>
<td>GC-26</td>
</tr>
</tbody>
</table>

### Baibo Medical Tent - ICU

<table>
<thead>
<tr>
<th>ICU-A (12)</th>
<th>ICU-B (3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ICU-1</td>
<td>ICU-2</td>
</tr>
</tbody>
</table>

### Baibo Medical Tent - Urgent Care

<table>
<thead>
<tr>
<th>North Park (7)</th>
</tr>
</thead>
<tbody>
<tr>
<td>UC-1</td>
</tr>
</tbody>
</table>
### MPTS Web Application – Summary

#### Admitted Participants

<table>
<thead>
<tr>
<th>Tent</th>
<th>Total Beds</th>
<th>Admitted</th>
<th>Average duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Balbo Medical Tent - General Care</td>
<td>84</td>
<td>0 (0 %)</td>
<td>38 min</td>
</tr>
<tr>
<td>Total Beds: 84</td>
<td>Available Beds: 84</td>
<td>Admitted: 0 (0 %)</td>
<td>Average duration: 38 min</td>
</tr>
<tr>
<td>Discharged: 22</td>
<td>Waiting for Transport: 0</td>
<td>Transferred: 29</td>
<td>Refused Care: 9</td>
</tr>
</tbody>
</table>

#### Balbo Medical Tent - Urgent Care

<table>
<thead>
<tr>
<th>Diagnosis Details</th>
<th>Dehydration 1 (20 %)</th>
<th>Exercise Assoc Collapse 1 (2 %)</th>
<th>Hypoglycemia 1 (20 %)</th>
<th>Hypothermia 1 (8 %)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asthma / Respiratory</td>
<td>1 (6 %)</td>
<td></td>
<td>2 (3 %)</td>
<td></td>
</tr>
<tr>
<td>Collapse</td>
<td>1 (9 %)</td>
<td></td>
<td>1 (8 %)</td>
<td></td>
</tr>
<tr>
<td>Laceration</td>
<td>1 (8 %)</td>
<td></td>
<td>2 (11 %)</td>
<td></td>
</tr>
<tr>
<td>Muscle Cramps</td>
<td>3 (17 %)</td>
<td></td>
<td>2 (14 %)</td>
<td></td>
</tr>
</tbody>
</table>

#### Jackson Medical Tent - General Care

<table>
<thead>
<tr>
<th>Diagnosis Details</th>
<th>Dehydration 3 (17 %)</th>
<th>Hypoglycemia 1 (2 %)</th>
<th>Hypothermia 2 (14 %)</th>
<th>Laceration 1 (10 %)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asthma / Respiratory</td>
<td>1 (14 %)</td>
<td></td>
<td>1 (15 %)</td>
<td></td>
</tr>
<tr>
<td>Collapse</td>
<td>1 (14 %)</td>
<td></td>
<td>1 (10 %)</td>
<td></td>
</tr>
<tr>
<td>Muscle Cramps</td>
<td>4 (22 %)</td>
<td></td>
<td>2 (11 %)</td>
<td></td>
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</tbody>
</table>

#### Medical Course Tent

<table>
<thead>
<tr>
<th>Tent</th>
<th>Total Beds</th>
<th>Admitted</th>
<th>Average duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Beds: 16</td>
<td>Available Beds: 16</td>
<td>Admitted: 0 (0 %)</td>
<td>Average duration: 40 min</td>
</tr>
<tr>
<td>Discharged: 1</td>
<td>Waiting for Transport: 0</td>
<td>Transferred: 3</td>
<td>Refused Care: 0</td>
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</tbody>
</table>

#### Super Ambulance

<table>
<thead>
<tr>
<th>Diagnosis Details</th>
<th>Dehydration 1 (13 %)</th>
<th>Exercise Assoc Collapse 1 (14 %)</th>
<th>Hypoglycemia 1 (20 %)</th>
<th>Hypothermia 1 (8 %)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asthma / Respiratory</td>
<td>1 (13 %)</td>
<td></td>
<td>1 (13 %)</td>
<td></td>
</tr>
<tr>
<td>Collapse</td>
<td>1 (13 %)</td>
<td></td>
<td>1 (13 %)</td>
<td></td>
</tr>
<tr>
<td>Laceration</td>
<td>1 (8 %)</td>
<td></td>
<td>2 (14 %)</td>
<td></td>
</tr>
<tr>
<td>Muscle Cramps</td>
<td>1 (13 %)</td>
<td></td>
<td>2 (14 %)</td>
<td></td>
</tr>
</tbody>
</table>

#### Aid Station 4

| Diagnosis Details | Dehydration 1 (100 %) | Hypoglycemia 1 (50 %) | Hypothermia 1 (50 %) | |
|-------------------|----------------------|-----------------------|----------------------||

#### Aid Station 7

| Diagnosis Details | Dehydration 1 (50 %) | Hypoglycemia 1 (50 %) | |
|-------------------|----------------------|-----------------------||

### Open Details in New Page
The mission of the World Road Race Medical Society is to promote the health and safety of participants in road race endurance events through research, communication, education, and the development of medical standards that can be utilized by all involved.

- Promote the sharing of information as it pertains to all medical aspects of running and endurance events.
- Promote research and improvements in clinical care for participants in road races and mass participation running events.
- Develop collaborative relationships with public safety groups.
- Establish reliable logistical matrixes that can be followed by events of all sizes.
- Provide event safety recommendations to event medical teams and race administrators.
- Establish liaisons to various groups, corporations and organizations that will help promote our mission.
Boston 2013

- Calm before the Storm
“Lessons Learned”- Moving Forward

• After Action Reports-RAND Report-July 10 2013 Senate

• 1-Major event with pre-deployed EMS/Security=rapid response
• 2-Race Day-Holiday- less street traffic fewer hospital visits
• 3-Bomb occurred before 3pm (shift change) 2x the medical staff
• 4-Bombs center of the city-surrounded by 7 trauma centers good distribution of injured
• 5-Bombs exploded outdoors-no structural collapse = rapid extrication
• 6-Recent adoption of military training for unique injuries by EMS/Hospitals
Changes already felt

- Global Awareness
Questions?

• Finished