BOSTON MARATHON MEDIAL REFERENCE APP

David Tseng MD, PGY3

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http://renalfellow.blogspot.com/2013/06/hemodialysis-vs-peritoneal-dialysis.html
No disclosures
No conflicts of interest
No disclosures
No conflicts of interest

http://www.adweek.com/adfreak/apples-get-mac-complete-campaign-130552
YOU KNOW…THERE IS AN APP FOR THAT
BACKGROUND

ORIGINAL PAPER

Smartphone App Use Among Medical Providers in ACGME Training Programs

Orrin I. Franko · Timothy F. Tirrell

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OBJECTIVES

• Background of the Boston Marathon
• Development and distribution
• Results
• Conclusion
BACKGROUND

30K
Runners are in the Boston Marathon field, as mandated by the Boston Athletic Association

80%
Is comprised of runners who qualified based on finishing time in a previous marathon

1.9K+
Medical personnel will be present

Boston Marathon 2016 Qualifying Times

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Men</th>
<th>Women</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-34</td>
<td>3:05</td>
<td>3:35</td>
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<tr>
<td>35-39</td>
<td>3:10</td>
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<tr>
<td>40-44</td>
<td>3:15</td>
<td>3:45</td>
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<td>45-49</td>
<td>3:25</td>
<td>3:55</td>
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<td>50-54</td>
<td>3:30</td>
<td>4:00</td>
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<tr>
<td>55-59</td>
<td>3:40</td>
<td>4:10</td>
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<td>60-64</td>
<td>3:55</td>
<td>4:25</td>
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<td>65-69</td>
<td>4:10</td>
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<tr>
<td>70-74</td>
<td>4:25</td>
<td>4:55</td>
</tr>
</tbody>
</table>

https://wallethub.com/blog/boston-marathon-fun-facts/20499/
This is a medical emergency! In heat stroke, every minute counts. When core temperature is very high, body and brain cells begin to die, so fast cooling is vital. The ultimate goal is to get the body temperature under 104°F within will dictate if condition. Ex altered cogniti an athlete co temperatures skin, core ter coma. A luci

Initial temperature assessment:
If athlete is suspected of having heat exhaustion or heat stroke with mental status changes a rectal temperature should be taken. (Privacy should be adhered to) If the temperature is above 104, the athlete should be immediately

Cold Water Immersion Cooling Guidelines

Indications
Practical guidelines for implementing cold water immersion for an exertional heat stroke patient.

A) 1. Initial response
Once exertional heat stroke is suspected, prepare to cool the patient and contact emergency medical services (EMS)

B) 2. Prepare for ice water immersion
In the field or in a temporary medical tent, half-fill the tub or wading pool with water and ice. The stock tank can be filled with ice and cold water before an event (or have tub half-filled with three to four coolers of ice next to tub; this prevents having to keep tub cold throughout the day.

- Ice should cover the surface of the water at all times.

An alternate method often referred to as the TACO method. The runner is placed on an impermeable with the head elevated. The sides of the tarp are also elevated to keep the water around the athlete. Ice water is poured into this field on and around the athlete. Rectal temperature should be taken possible before and kept in place for 5 minutes post removal.

C) 3. Determine vital signs
Just before immersing the heat-stroke patient, take vital signs.

Access core body temperature with a rectal thermometer (thermometers imply flexible thermometer, an end of the thermometer should be inserted into the rectum to a depth of 1-2 inches, and the temperature should be read after 1-2 minutes; it is impossible to achieve a precise reading because of movement. The average core temperature in humans is 98.6°F; after immersion, core temperature should be reduced to 98°F.)
METHODS

• Exclusion Criteria

• Inclusion Criteria

Heat exhaustion

Pierre d'Heme... Mar 13, 2014, 7:32...

There are quite a few that would argue that Tim panic temperatures are never of any value. If there is an altered mental status, A rectal temperature is the only value. I realize that we do this,

Delete

Heat Stroke

T >103 or >102 w/ cognitive deficits

Syncope

Go to EAC

Transfer to hyperthermic

Treatment area

Immediate notify MD

Active

EMS transport

Rectal temp.

Obtain Vital signs and Cool patient

Ice water immersion in Tub

• Half fill tub with water/ice

• Vigorous circulation

TACO method

• Place runner on impermeable tarp w/ head elevated

• Float sides of tarp and pour ice water into field

• Marine Corp w/ cold towels

• 6 fresh towels (torso, arms, legs, head)

• Continuously cycle towels to cool

Check rectal Temp q5

Remove from cooling when temp

102 or 10-15 min

Transport

Reasses in 10 minutes

Discharge if meets criteria

Start IV, check

If feels better

Discharge if meets criteria

Early warning

Early warning belligerence, early signs. Patient coordination a

Cool First.

Field treatment available the "I

The tent MD o

patient who is much of both is clearly shown implemented very effective as

temperature be

patient.

In emergency med

er and ice half-filled with w

I on an impermeable

around the athl

should be taken
Treatment Protocols

- Altered Mental Status
- Chest Pain
- Exercise Associated Collapse
- Heat Illness
- Hyponatremia Suspected
- Hypothermia Suspected
- Muscle Cramps
METHODS

Heat Illness

Heat Exhaustion

Heat Stroke
Heat Illness

Heat Exhaustion

Heat Stroke
T > 104 with mental status changes

Continue
Heat Illness

- Immediately notify MD
- Activate EMS transport
- Obtain vitals
- Rectal temperature

Continue
Heat Illness

Cooling Options

- Ice water immersion
  - Half fill tub with water/ice
  - Vigorous circulation

- Taco method
  - Place runner on impermeable tarp with head elevated
  - Elevate sides of tarp and pour ice water into field

- Marine Corp
  - 6 cold towels (torso, arms, legs, head)
  - Continuously replace cold towels
METHODS

• 592 volunteers
• 526 downloaded (426 iOS)
RESULTS

NP 3%
ATC 12%
EMT/Paramedic 25%
PA 2%
PT 11%
RN 19%
MD 7%
Other 20%

iPhone 80%
Android 20%
RESULTS

Number of Volunteers:

- 1
- 3
- 5
- 7
- 9
- 11
- 13
- 17
- 23
- 28

Number of Marathons:

- 0
- 15
- 30
- 45
- 60
- 75

Volunteers for Number of Marathons:

- 1
- 3
- 5
- 7
- 9
- 11
- 13
- 17
- 23
- 28

Bar Chart:

- ease of use
- will use this app again
- will recommend this app to others

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly Agree
RESULTS

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly Agree

contributed to clinical decision making
referred to during shift
contributed to patient throughput
CONCLUSIONS

• Develop and distribute medical reference app
  • Usable
CONCLUSIONS


THANK YOU!