75th Ranger Regiment Nutrition Program

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Warfighter Nutrition Conference
USUHS, Bethesda, MD
15 JULY 2008
1. REPORT DATE  
01 JUL 2008

2. REPORT TYPE  
N/A

3. DATES COVERED  
-

4. TITLE AND SUBTITLE  
75th Ranger Regiment Nutrition Program

5a. CONTRACT NUMBER  
-

5b. GRANT NUMBER  
-

5c. PROGRAM ELEMENT NUMBER  
-

5d. PROJECT NUMBER  
-

5e. TASK NUMBER  
-

5f. WORK UNIT NUMBER  
-

6. AUTHOR(S)  
-

7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)  
75th Ranger Regiment 6420 Dawson Loop Ft Benning, GA 31905

8. PERFORMING ORGANIZATION REPORT NUMBER  
-

9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)  
-

10. SPONSOR/MONITOR’S ACRONYM(S)  
-

11. SPONSOR/MONITOR’S REPORT NUMBER(S)  
-

12. DISTRIBUTION/AVAILABILITY STATEMENT  
Approved for public release, distribution unlimited

13. SUPPLEMENTARY NOTES  

14. ABSTRACT  
-

15. SUBJECT TERMS  
-

16. SECURITY CLASSIFICATION OF:  

   a. REPORT  
   unclassified

   b. ABSTRACT  
   unclassified

   c. THIS PAGE  
   unclassified

17. LIMITATION OF ABSTRACT  
UU

18. NUMBER OF PAGES  
18

19a. NAME OF RESPONSIBLE PERSON  
-
Agenda

• 75th Ranger Regiment
• The RAW Program
• Nutrition Program
  – Hydration
  – Body Composition
  – Performance Nutrition
75th Ranger Regiment

- **Mission**: Plan and conduct special military operations as directed by the National Command Authority in support of U.S. policies and directives.
  - Largest USSOCOM Direct Action Combat Force
    - Airfield Seizures
    - Special Operations Raids
    - Urban Combat
    - Non-combatant Evacuation Operations
- **Composition**: 4 Battalions, 3 Home Stations, 3300 Rangers
  - HAAF (1/75)
  - FLWA (2/75)
  - FBGA (3/75, RSTB, RHQ)
- **ROC Training**:
  - Initial Entry Courses (RIP, ROP)
  - Ranger School Prep Course (PRC)
- **Operational Readiness Training and Deployment Cycle**
  - Prep – Alert – Component (Combat Deployment)
  - Continuously deployed since 9/11
  - Multiple Overseas Locations Simultaneously
The RAW Program

4 Components:
- Functional Fitness
- Performance Nutrition
- Sports Medicine
- Mental Toughness

Team Approach:
Commander’s Program!
- Ranger Leaders
- Culinary Advisors
- Physicians
- Physician Assistants
  - Physical Therapists
  - Occupational Therapist
  - Registered Dietician
RAW and the Big Five
RAW Components

**Functional Fitness**
- Ranger-Specific
- Strength
- Endurance
- Movement Skills

**Performance Nutrition**
- Right nutrients
- Right time
- Right balance
- Supplement guidance

**Sports Medicine**
- Prevention
- Early intervention
- Multi-disciplinary team

**Mental Toughness**
- Ideal Performance State
- Fatigue countermeasures
- Endurance events
### Nutrition and Hydration

#### 2005-2007 FBGA Heat Injury Comparison

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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>HS</td>
<td>HE</td>
<td>Total</td>
<td>HS</td>
<td>HE</td>
<td>Total</td>
<td></td>
</tr>
<tr>
<td># FBGA</td>
<td>30</td>
<td>143</td>
<td>173</td>
<td>25</td>
<td>217</td>
<td>242</td>
<td>36 134 170 585</td>
</tr>
<tr>
<td># ROC, 75TH RR</td>
<td>3</td>
<td>2</td>
<td>5</td>
<td>6</td>
<td>1</td>
<td>7</td>
<td>5   3   8   21</td>
</tr>
</tbody>
</table>

|                |       |       |       |
| ROC % of FBGA Cases | 2.9% | 2.9% | 4.7% |

|                |       |       |       |
| # ROC Students  | 2414  | 2498  | 2643  |

|                |       |       |       |
| Rate (Cases/1000 Students) | 2.1  | 2.8  | 3.0  |

### NOTES:

- FBGA major heat injury cases as reported to FBGA Preventive Medicine Department
- 75th RR major heat injury cases as obtained from FBGA PM Dept and OPREP-3 Reports
- During this 3 year period, 1/75, 2/75, 3/75 had only 1 heat injury (HS) noted by 1/75 in 2006
- U.S. Army Heat Injury Prevention Task Force:
  - Army heat injury incidence declined significantly from 1987 to 1995 and has remained constant at **3.5 cases/1000** since 1995
  - “High risk” units currently include training schools and infantry units
# Nutrition and Hydration

## Heat Injury Factors and Controls

<table>
<thead>
<tr>
<th>KNOWN CONTRIBUTING FACTORS</th>
<th>PREVENTION CONTROLS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual Demographics (Age, Sex, Genetics)</td>
<td>Physical exam, additional screening</td>
</tr>
<tr>
<td>Low Fitness</td>
<td>Fitness screening, staged training</td>
</tr>
<tr>
<td>Overweight</td>
<td>Fitness screening, staged training</td>
</tr>
<tr>
<td>Previous Heat Injury</td>
<td>Medical history and record screening</td>
</tr>
<tr>
<td>Contributory Medical Issues</td>
<td>Medical history and record screening</td>
</tr>
<tr>
<td>Current Medical Illness</td>
<td>Education and screening</td>
</tr>
<tr>
<td>Specific Prescription and OTC Medications</td>
<td>Limit medications, recycle as required</td>
</tr>
<tr>
<td>Certain Nutritional Supplements (ie. Ephedra)</td>
<td>Screen and ban certain supplements</td>
</tr>
<tr>
<td>Lack of Full Acclimatization</td>
<td>Afford time and enforce acclimatization</td>
</tr>
<tr>
<td>Hot and Humid Training Environment and Climate</td>
<td>Decrease, move, modify training</td>
</tr>
<tr>
<td>High Training, Equipment, and/or Clothing Workload</td>
<td>Modify workload as required</td>
</tr>
<tr>
<td>Cumulative Effect of Training</td>
<td>Maximize time and rest between events</td>
</tr>
<tr>
<td>Suboptimal Hydration, Nutrition, and/or Rest</td>
<td>Education, opportunity, enforcement</td>
</tr>
<tr>
<td>Highly Motivated</td>
<td>Education, set limits</td>
</tr>
</tbody>
</table>
Nutrition and Hydration

**Added Heat Injury Controls for 2008**

- Implementation of fitness level screening for RIP
- Implementation of release runs/road marches instead of formations to alleviate individual heat burden
- Shift of major PT events to later time in courses, increasing preparation time for individual fitness and acclimatization
- Building block approach to meet standards by end of program versus “gut check” at onset of program
- Nutrition provided prior to and during major exertion events
- Stronger enforcement of sleep hygiene
- Medical hydration indicator implementation
- Medical screening facility at Cole range to be implemented
Nutrition and Hydration

Medical Hydration Indicator – Refractometer

- Educate on proper hydration
- Test status 48 hrs prior to event
- Re-educate
- Test status the day of the event

### Indices of Hydration

<table>
<thead>
<tr>
<th>Hydration Status</th>
<th>%BWΔ</th>
<th>Urine Color</th>
<th>USG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Well hydrated</td>
<td>+1 to -1</td>
<td>1 or 2</td>
<td>&lt;1.010</td>
</tr>
<tr>
<td>Minimal dehydration</td>
<td>-1 to -3</td>
<td>3 or 4</td>
<td>1.010- 1.020</td>
</tr>
<tr>
<td>Significant dehydration</td>
<td>-4 to -5</td>
<td>5 or 6</td>
<td>1.020- 1.030</td>
</tr>
<tr>
<td>Serious dehydration</td>
<td>&gt; -5</td>
<td>&gt;6</td>
<td>&gt;1.030</td>
</tr>
</tbody>
</table>

Nutrition and Hydration

Refractometer and RIP

• Pilot Study – July 2007 RIP Class
  – 99 RIP Students
  – Compared hydration status at two points prior to road march:
    • Initial test at 48 hrs prior to event
      – 85/99 students with significant or serious dehydration
      – Individuals initially found to be dehydrated received intensive education and a warning that they would not participate in event
    • Second test immediately prior to event
      – No students with significant or serious dehydration
      – No heat injuries or fallouts incurred during this event.

• Continue screening prior to heat injury “high risk” events
• Continue annual Heat Injury rate comparisons
Nutrition and Body Composition

Bod Pod system
Air displacement technology
• Track body composition
• Diet plan based on results
• Continue to monitor
Nutrition and Body Composition

Bod Pod: Best Ranger Competition

• Pilot Study – APR 08 BRC
  – 9 BRC Competitors
  – Evaluated at two points: three months and immediately prior to BRC
    • At three months prior to competition, average BF% = 14.6%
    • At immediately prior to competition, average BF% = 13.2%
    • Average of 2 lbs of body fat loss
  – 5/9 competitors finished
  – The leanest team gained fat intentionally and placed 4th
  – The team that lost the most body fat fell out of the competition
  – One team placed 1st and had an average BF% = 13.8%
Nutrition and Body Composition

Bod Pod: PRC & Ranger School

- Pilot Study – MAR 08 PRC & APR-MAY 08 Ranger School
  - 30 Students
  - Evaluated at three points:
    - Start of 22 day PRC (n=30)
    - Completion of PRC and start of 62 day Ranger School (n=30)
    - Completion of Ranger School (n=15)
  - Only 15 students graduated on time
    - Start of PRC: Average BF% = 16.6%
    - Start of Ranger School: Average BF% = 13.8%
    - End of Ranger School: Average BF% = 11.5%
    - Average weight loss = 3lbs during PRC and 5lbs during Ranger School.
  - Average body fat loss was 3lbs PRC and 2lbs during Ranger School.
  - Average Fat Free Mass increased 3lbs during PRC and increased 2lbs during Ranger School.
Performance Nutrition Standards in Dining Facilities:

- **RAW Nutrition**
  - Emphasize the basics – fruits, vegetables, legumes
  - Mediterranean Diet

- **Olympic Training Center (Colorado Springs, CO)**
  - Performance based diet plan
  - Recovery foods and beverages
  - Caloric variety to accommodate energy expenditure

- **Culinary Advisor Training**
  - Educate on and provide antioxidant rich food sources
  - Food labels to educate and prompt informed decisions
  - Healthier oils and decreased fat during preparation
  - Bake and grill more than deep fry
  - Pull deep fryers and replace with convection ovens
  - Minimization of mandatory “fast food” choices
Performance Nutrition

Dietary/Nutritional Supplements

• Education, Regulations, Risks and Benefits
• SOF Nutrition Guide
• How to read labels, what to look for, USP seals
• Relevant supplement research
• Regular updates on benefits and adverse affects
Future Initiatives

- **2008**: Initiate monitoring of Body Composition pre and post combat deployment
- **2008**: Initiate Nutrition and Supplement questionnaire pre and post combat deployment
- **2008-09**: Implement “Go Green” initiative at DFAC
- **2008-09**: Nutrition labeling for all DFAC items
- **2008-09**: Pull deep fryers and replace with convection ovens
- **2008-09**: Integrate healthy grocery shopping and cooking classes in FRG meetings
QUESTIONS?

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