75th Ranger Regiment Nutrition Program

LTC Russ Kotwal
Medical Director

CPT Nick Barringer
Dietician

SFC Cesar Veliz
Medical Training

SFC Justin Siple
Culinary Advisor

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Standard Form 298 (Rev. 8-98)  
Prepared by ANSI Std Z39-18
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

RANGER ATHLETE WARRIOR

MARKSMANSHIP

MOBILITY

MEDICAL TRAINING

SMALL UNIT TACTICS

PHYSICAL TRAINING
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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<td></td>
<td>HS</td>
<td>HE</td>
<td>Total</td>
<td>HS</td>
<td>HE</td>
<td>Total</td>
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<tr>
<td># FBGA</td>
<td>30</td>
<td>143</td>
<td>173</td>
<td>25</td>
<td>217</td>
<td>242</td>
<td>36</td>
<td>134</td>
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<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</td>
<td>3</td>
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<tr>
<td>ROC % of FBGA Cases</td>
<td>2.9%</td>
<td></td>
<td>2.9%</td>
<td></td>
<td>4.7%</td>
<td></td>
<td></td>
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<tr>
<td># ROC Students</td>
<td>2414</td>
<td></td>
<td>2498</td>
<td></td>
<td>2643</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Rate (Cases/1000 Students)</td>
<td>2.1</td>
<td></td>
<td>2.8</td>
<td></td>
<td>3.0</td>
<td></td>
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### 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
## Heat Injury Factors and Controls

<table>
<thead>
<tr>
<th>KNOWN CONTRIBUTING FACTORS</th>
<th>PREVENTION CONTROLS</th>
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<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>
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<tr>
<td>Highly Motivated</td>
<td>Education, set limits</td>
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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
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>
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<tr>
<th>Hydration Status</th>
<th>%BWΔ</th>
<th>Urine Color</th>
<th>USG</th>
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<tr>
<td>Well hydrated</td>
<td>+1 to -1</td>
<td>1 or 2</td>
<td>&lt;1.010</td>
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<tr>
<td>Minimal dehydration</td>
<td>-1 to -3</td>
<td>3 or 4</td>
<td>1.010-1.020</td>
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<tr>
<td>Significant dehydration</td>
<td>-4 to -5</td>
<td>5 or 6</td>
<td>1.020-1.030</td>
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<tr>
<td>Serious dehydration</td>
<td>&gt; -5</td>
<td>&gt;6</td>
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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
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?

LTC Russ S. Kotwal, MD MPH
75th Ranger Regiment
6420 Dawson Loop
Ft Benning, GA 31905
kotwalr@soc.mil
(706) 545-3769

SFC Justin B. Siple
75th Ranger Regiment
6420 Dawson Loop
Ft Benning, GA 31905
siplej@soc.mil
(706) 626-2763

CPT Nick Barringer, RD
75th Ranger Regiment
6420 Dawson Loop
Ft Benning, GA 31905
barringn@soc.mil
(706) 545-7435