

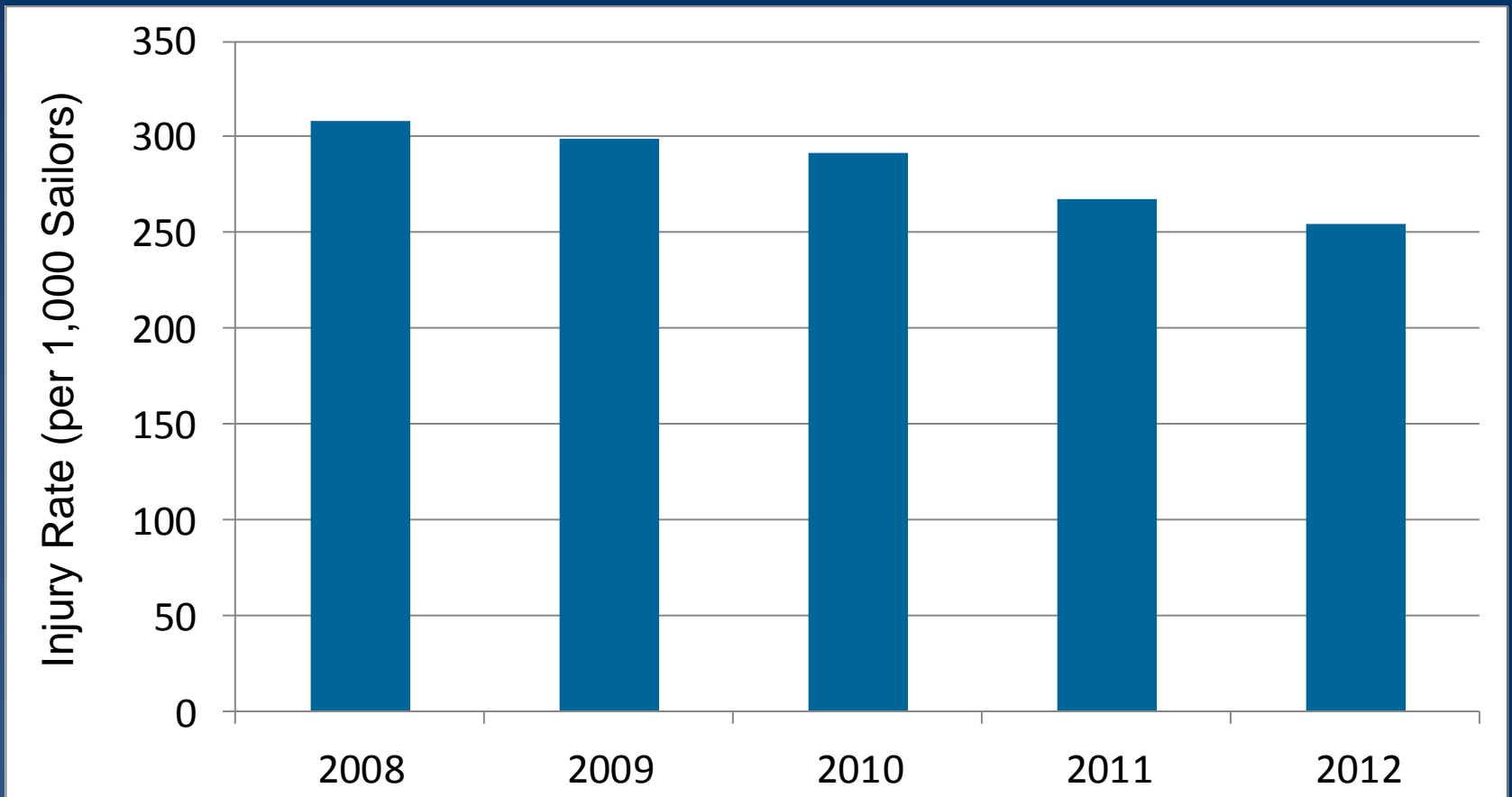
Physical Readiness Program Injury Prevention and Safety



Objectives

- Discuss the impact of injuries on mission readiness
- Discuss important components of Physical Readiness Program safety
- Discuss ways to minimize risk factors

Musculoskeletal Injury Rate in Active Duty Navy Service Members, 2008-2012



Provided by the Navy Marine Corps Public Health Center

Injury Impact

- Lost training/work days
- Added strain at the unit level which can lead to resentment
- Decreased retention
- Manning shortages that impact all units and their mission readiness

Types of Injury

- Acute
 - Comes on quickly, specific impact
- Chronic
 - Repetitive strain injury or cumulative trauma
 - Overuse
 - Excessive Overload
 - Static positions
 - Awkward postures



Risk Factors

CANNOT be Modified:

- Personal factors
 - Gender
 - Age
 - Basic anatomy
- Prior injury
 - Higher risk of re-injury
- Environmental conditions
 - Cold
 - Heat
 - Humidity

CAN be Modified:

- Command PT
 - Location
 - Techniques
- Type of activity
- Equipment/PPE/Clothing
- Lifestyle
 - Physical Fitness
 - Nutrition
 - Alcohol/Tobacco
 - Fatigue/Sleep
- Adaptation to environment

Safety

- Safety and injury prevention during command PT is the CO's ultimate responsibility through:
 - CFLs
 - If in doubt, stay to the conservative side
 - Train ACFLs on proper procedures
 - Know and monitor your Sailors!
 - Command Safety Officer
 - Assessing your programs
 - Medical
 - Information, feedback, and PHAs

Minimizing Risk Factors

Strategies for Reducing Injuries



Factors to Consider

- Least fit are most prone to injury
- Need to initiate exercise at lower levels
- Base the exercise program on the individual's needs
- Follow medical recommendations
- If over BCA Standards, use low impact activities to start out

Pre-physical Activity Questions

- Asked prior to PFA, FEP, or any command / unit supervised PT

THIS IS NOT OPTIONAL!

- Members recovering from a recent illness, a change in health, or risk factors, shall not participate or be tested!

IF IN DOUBT, SEND TO MEDICAL!

Tobacco Use

- Do NOT allow tobacco use 30 minutes before to 15 minutes after exercise
- Smoking effects:
 - ↓ capacity of blood to carry oxygen
 - ↓ breathing capacity by 50%
 - Over-stimulates heart –
↑ heart rate/blood pressure
causing the heart to work harder



Clothing, Footwear, and Equipment

- Hot Weather Clothing
 - Porous, light colored, loose fitting, wicking fabric
 - No rubberized clothing / sweat suits
- Cold Weather Clothing
 - Dress in layers. Base layer should be wicking material, then an insulating layer, followed by water/windproof outer layer.
 - Below 32 degrees F add one layer for every 5 mph of wind



Shoe Selection

- Select the right shoe for the activity
 - Running
 - Cross Training
 - Sport Specific
 - Basketball, Tennis
- Select the right shoe for you
 - Motion Control
 - Stability
 - Cushioning

| Arch Type | Wear Pattern | Shoe Type (NEX) |
|---|--|---|
|  Normal |  Neutral |  Stability For Normal Feet <small>Running</small> |
|  High Arch |  Supinator |  Cushion For High Arch Feet <small>Running</small> |
|  Flat Feet |  Overpronator |  Motion Control For Flat Feet <small>Running</small> |

Shoe Selection

- The right shoe can help prevent running related injuries
 - Shin splints
 - Plantar fasciitis
 - Knee pain
- Replace shoes every 350-500 miles

Navy Policy Regarding Minimalist Footwear

- NAVADMIN 238/11
 - Authorizes the wear of minimalist footwear with Navy PTU during Command PT, individual PT, as well as PRT
 - Appropriate socks must be worn with minimalist footwear
- MWR Fleet Readiness Memo (04 MAR 10): Vibram FiveFingers Footwear in Fitness Facilities
 - Authorizes minimalist footwear in fitness facilities, but NOT for intramural sports competitions (Softball, flag football, etc.)

Recommendations for CFL's

- Recommendations for footwear requires a special skill set and medical expertise
- Refrain from making recommendations!



Environmental Causalities

- Prolonged exposure to extreme temperatures and acclimating to altitude



U.S. Navy Weather Flags Chart

| | | |
|-------|-----------|--|
| White | <80 | Extremely intense physical output may precipitate heat injury. Caution should be taken |
| Green | 80–84.9 | Heavy exercise for un-acclimated personnel should be conducted with caution and under responsible supervision |
| Amber | 85-87.9 | Strenuous exercise and activity should be curtailed for all personnel with less than 3 weeks training in hot weather |
| Red | 88-89.9 | Strenuous exercise curtailed for all personnel with less than 12 weeks training in hot weather |
| Black | 90 and up | Physical training and strenuous exercise suspended for all personnel (excluding operational commitments) |

Wearing of body armor or NBC uniform adds approximately 10 points to the measured WBGT index.

Weather “Show Stoppers”

- Wind chill is 20 degrees F or lower
- “Black Flag” conditions



Follow the rules and use common sense!

Preventing Dehydration in Hot and Cold Weather

- Drink frequently!
- Avoid excess caffeine and/or alcohol
- Start drinking fluids days before a major workout



Water

- Adequate intake is critical
 - Drink before / during / after event
- Present at test site
- Must be at Start and Finish line if different



Hot Weather Injuries

| | Signs / Symptoms | Treatment |
|------------------------|--|---|
| Heat Cramps | Dehydration, thirst, sweating, muscle cramps, and fatigue | <ul style="list-style-type: none">• Rest, cool down, drink fluids• Medical Assistance |
| Heat Exhaustion | Light-headedness, nausea, vomiting, decreased coordination, exhaustion, and often fainting | <ul style="list-style-type: none">• Remove excess clothing, rest, mist/fan, remove to cool shaded area, drink fluids• Medical assistance |
| Heat Stroke | Altered level of consciousness; dry, red skin; seizures; coma; and possibly death | <ul style="list-style-type: none">• Remove clothing, douse with water, move to cool shade• Medical assistance |

Cold Weather Injuries

| | Signs / Symptoms | Treatment |
|--------------------|---|--|
| Frostbite | Skin is white, numb, wooden feeling; deep frostbite may involve muscle/bone | <ul style="list-style-type: none">• Re-warm only if refreezing will NOT occur• Medical Assistance |
| Hypothermia | Inability to stop shivering, confusion, and lack of coordination | <ul style="list-style-type: none">• Re-warm, drink fluids• Medical Assistance |

High Altitude PT

- Less oxygen at higher altitudes
 - Transfer to duty stations at altitudes of 5,000 feet or greater require 30 days to acclimatize
- Watch for hyperventilation and dehydration



Acclimatization

- COs are authorized, with the AMDR's consultation, to set appropriate acclimatization periods for newly-reported personnel for participation in command or unit PT, PFAs, and FEP
 - If the acclimatization period extends into the next PFA cycle, the member can be excused from the PRT only
 - The BCA still needs to be conducted

Cardio-respiratory Incidents

- Heart Attack Signs / Symptoms include:
 - Crushing, stabbing, burning, numbing, tingling, and/or cramping chest
 - Sweaty and/or bluish color
 - Left arm and/or jaw pain
 - Nausea/vomiting
- Summon medical assistance
- Provide CPR if needed
 - Use AED if available

Safe Command PT

Management Strategies



Emergency Response Plan

- Develop a comprehensive but workable emergency response plan
- Refer to Physical Readiness Program Operating Guide 5
- Practice the emergency response plan!

Injury Reports and SITREPS

- If injuries do occur:
 - Send/escort member to medical
 - Report injury and/or illness to command safety officer
 - Command safety officer notifies Naval Safety Center (if required)

Summary

- Injuries have an impact on readiness
- Safety is our number one priority
- Injuries can be minimized by using proper clothing, shoes and equipment
- Planning for environmental factors can help mitigate injuries

References

- Defense Safety Oversight Council (DSOC). DOD Military Injury Prevention Priorities Working Group: Leading Injuries, Causes, and Mitigation Recommendations. 1 Aug 2005 - 1 Jan 2006. Assistant Secretary of Defense (Health Affairs), Washington, DC.
- www.princeton.edu/oa/safety

References (cont.)

- Heat Index and Physical Exercise (Navy). Naval Safety Center: www.safetycenter.navy.mil/ashore/articles/recreation/heatindex.htm
- Krentz, M. J. Aviation Medicine
- OPNAVINST 6110.1 (Series), Physical Readiness Program

Questions?

