Challenges adopting Paralympic Classification to Military Adaptive Sports

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Military Adaptive Sports Programs

• For wounded, ill, or injured Active Duty Service Members and Veterans
• To improve physical and mental quality of life throughout the continuum of recovery and transition
• Regional, National, International
• Founded in 2010
• Annual championship competition
  1. Archery
  2. Athletics
  3. Cycling
  4. Shooting
  5. Sitting Volleyball
  6. Swimming
  7. Wheelchair Basketball

Athletes represent Service Teams
• US Air Force, Army, Navy, Marines, Special Operations Command
• Allied Forces
Tactical Athletes of Today

• Improving US Military Survival Rates
  • Civil War 66%
  • WWI 79%
  • WWII 70%
  • Iraq & Afghanistan 90.4%
• More complex injuries

How well do modern military athletes fit into our classification system?
Injuries to United States Active Duty Military

Recent conflicts have resulted in:

• 320,000 traumatic brain injuries (Mac Donald et al, 2011),
• 5,928 with spinal cord injuries (Schoenfeld et al, 2011),
• 1,643 major limb amputations (EACE database, 2017),
• Blindness in 265 eyes (Vlasov et al, 2015)

Additional injuries due to non-combat accidents and illness
Paralympic Eligible Impairments: Acquired Medical Conditions

1. Hypertonia &
2. Ataxia
   • Traumatic Brain Injury
   • Spinal cord injury
   • Acquired neurologic disorder
3. Limb Deficiency
   • Traumatic amputation
   • Cancer
   • Failed limb salvage
4. Impaired PROM &
5. Leg length Difference
   • Fractures
   • Other orthopedic injury
6. Impaired muscle Power
   • Spinal Cord Injury
   • Peripheral nerve injury
   • Acquired neurologic disorder
7. Visual Impairment
   • Direct injury
   • TBI
Classification Challenges

1. Non-eligible impairments
   - Not permanent
   - Not measurable

2. Multiple eligible impairments
   - Complex polytrauma

   • High incidence of invisible conditions (Lew et al., 2009)
     - Chronic pain (81.5%),
     - Post-traumatic stress disorder (PTSD) (68.2%),
     - mTBI / Post-concussive syndrome (66.8%)
       - Headache, fatigue, anxiety, tinnitus
       - Dizziness (vestibular)
Multiple Eligible Impairments
Multiple Eligible Impairments

Mechanism of injury: Burn

Medical Conditions:
• Drop foot
• Loss of Digits
• Joint contractures

IPC Eligible Impairments:
• Impaired muscle power
• Limb deficiency
• Impaired passive ROM
Athlete Classification

CONSISTENT WITH IPC

• Mandatory classification
  • Bench, technical, and observation
  • Regional / qualifying competition

• Classification Team
  • Medical expertise
  • Technical expertise
  • Specific Training

• Sport specific classification

WARRIOR GAMES SPECIFIC

• Classification code
  • Inspired by Paralympic Code for each sport
  • Condensed classes

• Minimal eligibility criteria
  • PTSD and mTBI are included
  • Open class added to all sports

• Universal classifiers
  • Oversee ALL sports
## Potential Paralympic Eligibility*

<table>
<thead>
<tr>
<th>Military Branch</th>
<th>Athletes</th>
<th>Paralympic Eligible</th>
</tr>
</thead>
<tbody>
<tr>
<td>US Air Force</td>
<td>45</td>
<td>20 (44%)</td>
</tr>
<tr>
<td>US Army</td>
<td>47</td>
<td>25 (53%)</td>
</tr>
<tr>
<td>US Marines</td>
<td>39</td>
<td>14 (36%)</td>
</tr>
<tr>
<td>US Navy</td>
<td>40</td>
<td>15 (38%)</td>
</tr>
<tr>
<td>US SOCOM</td>
<td>35</td>
<td>22 (63%)</td>
</tr>
<tr>
<td>UK Armed Forces</td>
<td>39</td>
<td>18 (46%)</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>245</strong></td>
<td><strong>114 (47%)</strong></td>
</tr>
</tbody>
</table>

*Potentially eligible in ≥1 sport
Primary Impairments

- Impaired Muscle Power: 35%
- Limb Deficiency: 32%
- Impaired PROM: 18%
- Visual Impairment: 7%
- Hypertonia: 6%
- Ataxia: 2%

(n = 114 athletes)
Paralympic Sport Performance Pipeline

- Paralympic Podium
  - Single Sport or Dual Sport
  - Highly Competitive
  - Local/Regional Competition
  - National Competition
  - Int’l Competition

- National Team
- Emerging
  - NGBs
  - Paralympic Sports Clubs
  - Community Programs
  - Military Programs
  - Parks and Recreation Orgs.
  - Disability Sports Orgs.

- Development
  - NGBs
  - Paralympic Sports Clubs
  - Community Programs
  - Military Programs
  - Parks and Recreation Orgs.
  - Disability Sports Orgs.

- Recreational
  - Participatory
  - Local Competition

Organizations

Athletes
Military Adaptive Sports Programs

- Military athletes have unique and complex injuries
  - Invisible injuries
  - Multiple eligible impairments
- Provide a great benefit to our wounded, ill, and injured military
- Opportunity for collaboration
  - Athlete recruitment
  - Research

Poster Session 2
FRIDAY 13:30-15:00
Abstract #71

SCOTT DANBERG
Je Vous Remercie!  Thank You!
References


