



# Challenges adopting Paralympic Classification to Military Adaptive Sports

**Jennifer Lučarević, PT, DPT, PhD(c), CDSS**

**Scott Danberg, MS**

**Jarnetta Fowler, MS, OTR/L, CWCE**



# 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**

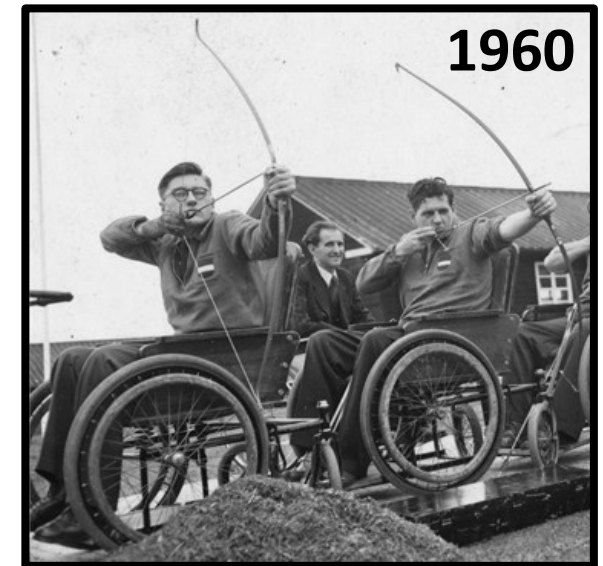
- US Air Force, Army, Navy, Marines, Special Operations Command
- Allied Forces



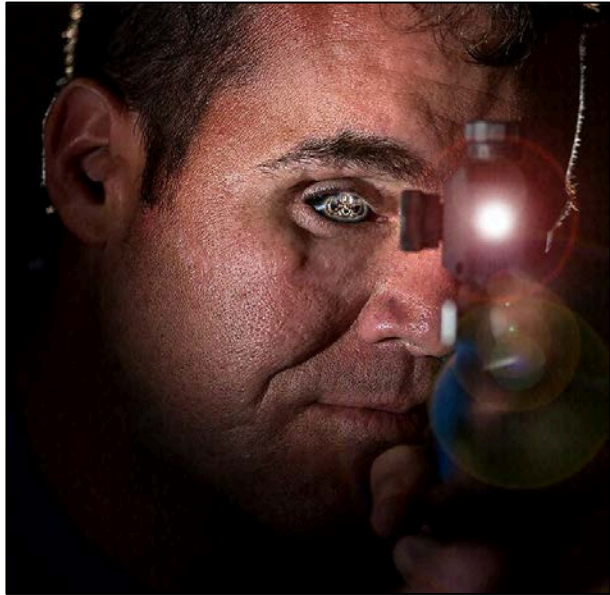
# Tactical Athletes of Today

- 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\*



	Athletes n	Paralympic Eligible n (%)
US Air Force	45	20 (44%)
US Army	47	25 (53%)
US Marines	39	14 (36%)
US Navy	40	15 (38%)
US SOCOM	35	22 (63%)
UK Armed Forces	39	18 (46%)
<b>TOTAL</b>	<b>245</b>	<b>114 (47%)</b>

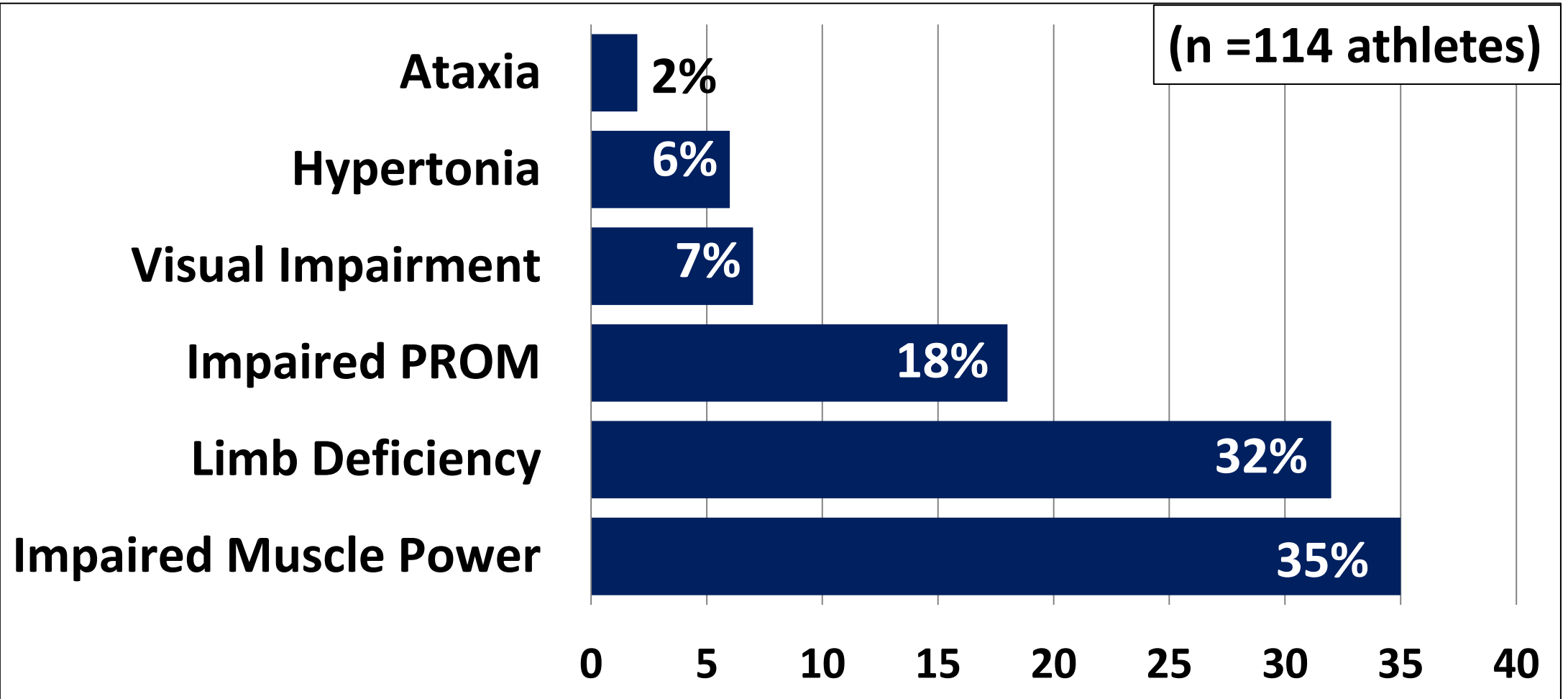
\*Potentially eligible in  $\geq 1$  sport





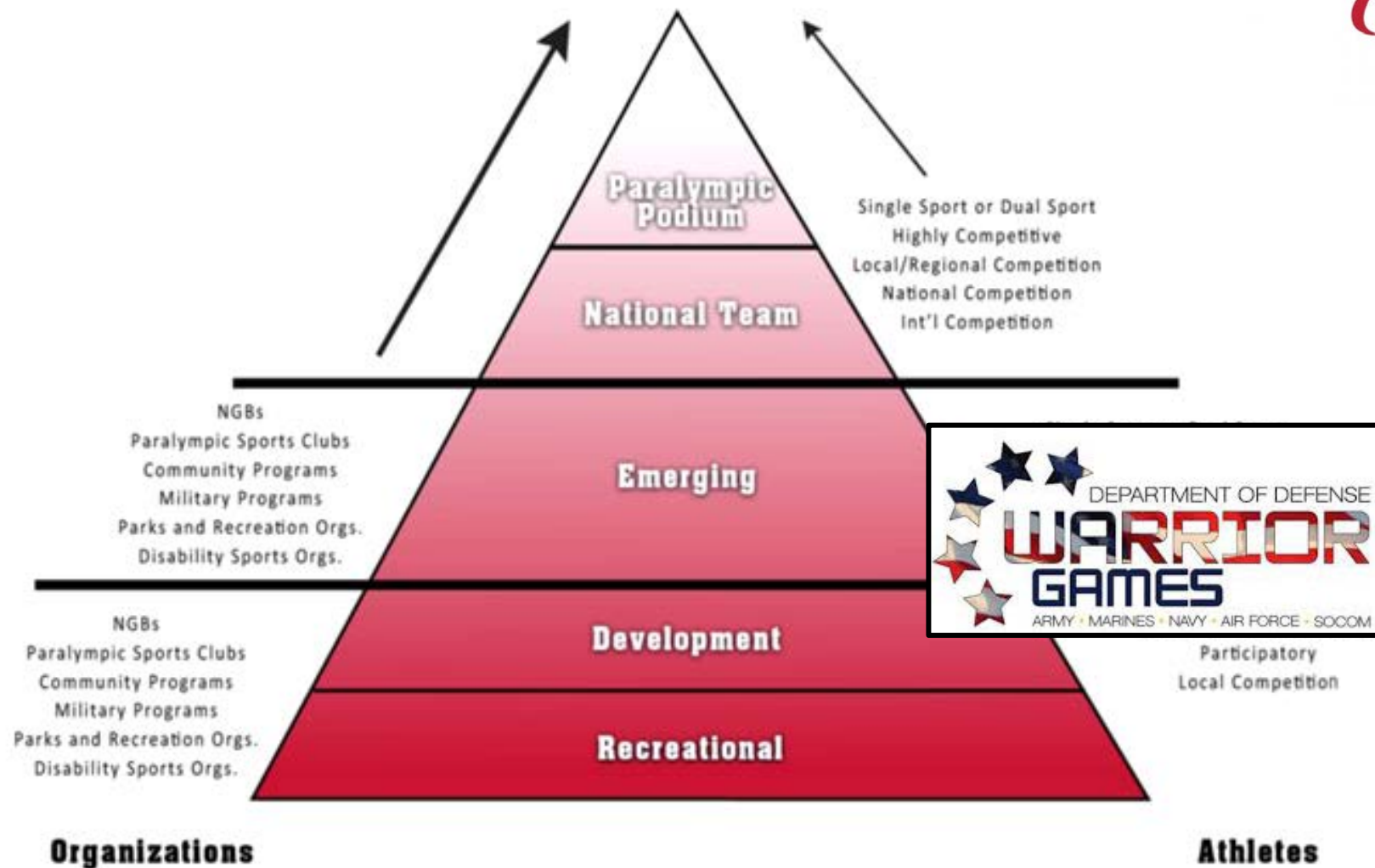
# Primary Impairments

(n = 114 athletes)





# Paralympic Sport Performance Pipeline



# Military Adaptive Sports Programs

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

- 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**





**Je Vous Remercie!**



**Thank You!**



# References

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