

# **Enclosure g**



**DEPARTMENT OF THE ARMY**  
HEADQUARTERS, UNITED STATES ARMY SPECIAL OPERATIONS COMMAND  
2929 DESERT STORM DRIVE  
FORT BRAGG, NORTH CAROLINA 28310-9110

AOHP-W

25 June 2021

**MEMORANDUM FOR RECORD**

**SUBJECT: United States Army Special Operations Command (USASOC) Warfighter For Life Alliance Research Areas of Interest**

1. **Vision:** USASOC leads a collaborative alliance delivering effect-focused research to meet Army Special Operations Forces (ARSOF's) performance and resilience needs, aligned with specified research areas of interest.

2. **Mission:** USASOC harnesses expertise throughout the Department of Defense, academia, U.S. Army Medical Treatment Facilities (MTFs), and premier public and private research institutions in order to deliver evidence-led, innovative, Soldier-focused tools and methodologies for the longitudinal surveillance, protection, enhancement, and treatment of ARSOF Soldier performance, mind and brain health.

**3. Research Areas of Interest:**

a. **Warfighter Mind and Brain Health:** Establish cognitive performance baselines; raise awareness and convey best practices to maximize cognitive performance. enhance current cognitive performance; in cooperation with DOD's Warfighter Brain Health Comprehensive Strategy, align brain health research and acquisition to the operational environment and current/emerging threats; mitigate the degradation of cognitive performance to operational risks; restore cognitive and physical performance post injury. Biotechnologies/Human Interface and Brain Health would like to endorse research or surveillance on occupational exposures which may have an effect on the body and mind of the operator. Avenues of research and surveillance efforts should focus on at least one of the following areas:

**1. Detection**

a. **Blast concussive vs. other causes**

**2. Measurement of impairment and Performance**

**3. Establish approach to reduce risk of brain injury while maintaining the ability to train and availability to fight**

**4. Outcomes of acute and chronic blast overpressure exposure**

a. **Biomarkers**

b. **Inflammatory molecules**

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- c. Epigenetic expression shifts
  - d. Components of cellular breakdown
5. Cognitive or emotional performance
- a. Information processing
  - b. Learning and memory
  - c. Executive function
  - d. Affect processing and exhibition
  - e. Attention and motivation
  - f. Stress disorders
6. Sensory perception
- a. Visual
    - i. Retinal health
    - ii. Pupillary response
    - iii. Eye movement tracking
  - b. Auditory
    - i. Pure-tone frequency loss
    - ii. Non-tonal hearing loss
    - iii. Tinnitus
    - iv. Vestibular
      - 1. Vestibular-evoked myogenic potentials
      - 2. Oculomotor response
      - 3. Posture and balance
  - c. Motor or behavioral performance
    - i. Neurologic signs
    - ii. Vascular indices
    - iii. Sleep quality
    - iv. Sleep apnea
      - 1. Sleep disturbances
    - v. Post-concussive syndrome-like symptoms
      - 1. Validated laboratory screening for Neuroendocrine and signaling molecules
      - 2. Testosterone and other sex hormones
      - 3. Cortisol and other stress hormones
      - 4. BDNF, TNF, and other neuropeptides or neurotransmitters
7. Quantitative measurement tools or protocols for detection of noteworthy events in the field. *Note- must have a CRADA plan to be acceptable for communicating with SOCOM Network to allow upload/download of data.*
- a. Blast gauges
    - i. Remote sensing devices

- ii. Algorithms for individually-linked quantification and characterization of blast exposure
- iii. Programs for the cumulative recording and storing of blast exposure for individuals
- b. Concussion
  - i. Field-based detection technology and/or protocol at Point of Injury (POI)
  - ii. Technology and/or protocol for the tracking of recovery; beginning with POI
  - iii. Metrics and/or protocol for return-to-duty
- c. Sleep
  - i. Quantity/depth of sleep sensing technology
  - ii. Algorithms for characterization of sleep quality
  - iii. Programs for recording, storing, and analyzing sleep metrics

**8. Information, Education and Mentorship**

- a. Peer equipping and intervention awareness
- b. Peer and leader network education
- c. Fostering culture of mentorship and advocacy for seeking help
- d. Nutrition strategies
- e. Understanding impact of long-term exposures

b. ARSOF Soldier Human Performance and Wellness: Establish performance baselines; raise awareness and convey best practices to optimize comprehensive performance; strengthen research partnership opportunities with other government agencies, industry, and academia; enable researchers' access to valid data; translate research findings to knowledge, practices, policies, and material products; facilitate research by bringing researchers to the nexus of ARSOF training and ARSOF/FORSCOM operational units. Topics and possible metrics for investigation that physical performance, cognitive performance, and holistic wellness are specifically interested in include:

- 1. Novel solutions for improving physical capabilities and performance:
  - a. Improving or optimizing strength
  - b. Improving or optimizing power
  - c. Improving or optimizing agility
  - d. Improving or optimizing speed
  - e. Improving or optimizing anaerobic capacity
  - f. Improving or optimizing aerobic capacity
  - g. Improving or optimizing muscular endurance
  - h. Improving or optimizing range of movement and symmetry

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- i. Improving or optimizing body composition
  - j. Musculoskeletal injury prevention
  - k. Musculoskeletal injury recovery
2. Novel solutions for improving cognitive capabilities and performance:
- a. Improving or optimizing memory
  - b. Improving or optimizing perception
  - c. Improving or optimizing executive function
  - d. Improving or optimizing attention
  - e. Improving or optimizing accurate reaction time
  - f. Improving or optimizing inhibitory control
  - g. Improving or optimizing speed
  - h. Improving or optimizing visual acuity
3. Technical Research Areas:
- a. Pharmacological pain treatments
  - b. Non-pharmacological pain treatments
  - c. Biomechanical enhancements
  - d. Dietary supplements, including creatine and Omega 3 Fatty Acids
  - e. Wearable sensor/tech validation
  - f. Integration of processes and practices into appropriate information systems
  - g. Biomarker research
  - h. Neural implant
  - i. Neuroplasticity
  - j. Far infrared radiation biologic effects, including therapeutic effects, and associated health benefits.

c. Diversity and Inclusion in ARSOF: Pursue research, identify best practices, and implement activities and programs to effectively integrate historically underrepresented groups and genders into ARSOF; better understand and optimize respective HPW needs and requirements for diversity and inclusion as a part of the ARSOF mission; create pathways to



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increase USASOC's diversity; enable and promote progression opportunities within USASOC.

Topics and areas of investigation of interest to the Command include:

1. Understanding incidents, trends or perceptions of sexual or gender discrimination and sexual harassment or assault
2. Understanding of report tracking, managing and adjudicating to address and mitigate such reports
3. Understand career pathways, opportunities, inter-service/component transfers (active, reserve, National Guard), and separation from ARSOF, including all those in enabler and operator roles
4. Assessing the impact of any actual or perceived gender discrimination, experience or threat of sexual harassment and sexual assault, or career progression impediments on the promotion, retention, and recruitment of women in the ARSOF community
5. Review and analysis of implemented activities and programs to prevent and respond to gender discrimination, sexual harassment and sexual assault, and career progression impediments that have been adapted to effectively serve the small population of women currently serving in or supporting ARSOF
6. Review and analysis of women and minority ARSOF members' access to or any denied access to transition-related resources that are available to SOF operators, including official programs, such as Preservation of the Force and Family (POTFF), and unit-sanctioned external organizations, such as nonprofits, that may create disparities in transition from service member to veteran
7. Assessing the impact of challenges women ARSOF members have pertaining to postpartum physical effects, depression, anxiety and stress.
8. Assessing the impact of challenges ARSOF members have pertaining to childcare, and its effect on retention and ability to sustain an ARSOF career.
9. Assessing the impact of challenges women ARSOF members have pertaining to equipment fitting and other human factors that affect a female ARSOF member's ability to perform her job.
10. Understanding the positive and negative social support realities that any and all ARSOF members face. Share best practices that promote quality of life and job satisfaction, while mitigating or removing conditions or environments that diminish quality of life or job satisfaction.

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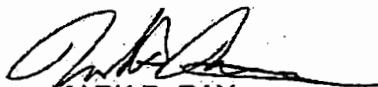
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d. ARSOF Veteran Engagement and Transition Support (ARSOF VETS): Establish a collaborative community that connects with and engages the Service Member and Family upon entry into ARSOF, throughout service in uniform, into and through post-separation for 24 months; filling SOF-peculiar gaps in Army Transition Assistance Program (TAP), thicken the support network to connect to VA, inform ARSOF VETS about benevolent Veteran Service Organizations (VSOs), and equip ARSOF veterans with right knowledge, processes and tools to thrive after their service to the nation. Topics and areas of investigation of interest to the Command include:

1. Landscape review of trends, behaviors and Veterans and their transition post-uniformed service
2. Review and analyze the trends of transition through service, the effect upon transition post-service, and implementing interventions earlier in ARSOF operators career span to support and enable a healthy transition into post-service civilian life
3. Understanding the support network for ARSOF Veterans through peers, public and private organizations, and veteran access to Army Transition Assistance Program (TAP) and Veteran Affairs programs and care
4. Analysis, program evaluation and implementation of effective engagement, information and messaging campaign to ARSOF senior Service Members, veterans and supporting peer and service organization networks.

12. Point of Contact: The point of contact for this memorandum is COL Mark Ray, USASOC HPW Director at (910) 432-4848 or email: mark.d.ray.mil@socom.mil.



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