
# AIR COMBAT COMMAND

# CONCEPT OF OPERATIONS (CONOP)

# FOR

# OPTIMIZING THE HUMAN WEAPON SYSTEM (OHWS)

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## 1.0. PURPOSE, BACKGROUND AND AUTHORITY

### 1.1. PURPOSE

This Concept of Operations (CONOP) outlines the program to mitigate neck/back pain in fighter aircrew by programmatically providing training, recovery assistance, and support to preserve human combat capability. This document presents an approach to the prevention of neck and back injuries that result in increased training costs, result in lost productivity, increase disability costs, result in a decrease quality of life, and result in the premature departure from the Air Force for some fighter aircrew. This document will identify requirements to optimize and sustain pilot neck and back health needed to protect against the physical stressors that are associated with the dynamic nature of fighter operations.

This requirement supports Combat Air Forces (CAF) fighter squadrons by providing funding for support services intended to enhance strength and physical conditioning to decrease the rate and severity of neck and back pain ("prehabilitation", discussed below) and other measures deemed appropriate to decrease the overall burden of neck and back pain. The Chief of Staff Air Force, noting a shortage of fighter aircrew due to suboptimal retention, directed a task force to look into the reasons behind the premature departure of fighter aircrew. One of the retention issues noted by fighter aircrew was pain and disability from neck and back issues resulting from the extremely challenging physical demands of flight in Air Force fighters. Surveys indicate up to 85% of fighter aircrew have some type of spine discomfort during their career. The OHWS program is intended to address this pressing concern and better prepare fighter aircrew to meet the unique physical challenges of fighter operations.

Previous efforts in some fighter units have demonstrated success in decreasing pain and disability while improving performance of fighter aircrew through a comprehensive program to prepare aircrew for the demands of fighter operations. This OHWS program is intended to reproduce this success on a system-wide basis and is described as prehabilitation. Prehabilitation involves reduction of disability and pain experienced as a result of fighter operations through a program specifically designed to train and otherwise prepare aircrew for the rigorous demands of fighters. This program will target neck and back strength and conditioning training which will best prepare fighter aircrew. This program is not intended to supplant or augment medical care under the responsibilities and authorities of Military Treatment Facilities, nor is the program intended to be a general fitness program, but rather, is targeted to serve the limited role of meeting the unique operational mission requirements of fighter aircrew. Tailored prehabilitation, including overall conditioning and health education, will further decrease the incidence and severity of neck and back problems. Lastly, through activities to help address minor neck and back strain reported by fighter aircrew, OHWS professionals will encourage proper movement patterns, mechanics, flexibility, mobility and other activities to help resolve minor strains before they can progress to bigger issues. In accordance with an approved Institutional Review Board (IRB), data collection, including objective and subjective information, will be used to allow the OHWS program to continue to improve, ensuring the best possible neck and back pain prevention program.

1.1.1. This CONOP will remain in effect from the date signed and serve as a baseline document for the Optimizing the Human Weapon System (OHWS) program until superseded by an instruction or policy directive or deleted by the Approving Official. Air Combat Command is the lead agency for the OHWS program. ACC/A3TO is the program lead for ACC and will update this document as the OHWS concept matures and/or other information becomes available. Changes to the CONOPS and updates will not incur a manpower resource increase without validation.

1.2. BACKGROUND

1.2.1. The CAF Fighter Enterprise consists of multiple Mission Designated Series (MDS) aircraft/aircrew: F-15/F-16/F-22/F-35/A-10 whose mission is to prosecute air-to-air and air-to-ground operations. These operations, and the Aircrew Flight Equipment (AFE)(i.e., JHMCS, HMCS, NVGs, etc.) required for these operations under high G-forces, may result in short and long term neck and back pain. This can ultimately impact how effective aircrew are in performing the mission and may impact the decision to remain in the Air Force.

1.2.2. The OHWS program provides an aggressive approach to prevention of neck and back pain. OHWS services are administered by a professional which may include a mix of Certified Athletic Trainers, Massage Therapists, Certified Strength and Conditioning Specialists (CSCS), and others as determined, by program leadership to meet the OHWS program requirements.

1.2.3. OHWS is the direct result of Air Force leadership recognition of the impact/toll neck and back pain are taking on the Air Force Fighter Enterprise in regards to operational readiness, health, quality of life, and retention.

1.2.4. In December 2015, COMACC was briefed on the Fighter Enterprise Redesign (FER) Retention Recommendations. Recommendation #15 (Preventive Medical Care for Back and Neck Injury) was an issue that was initially brought forward by fighter aircrew.

1.2.5. ACC/A3 and ACC/SG are engaged to develop the OHWS program to address prevention and minimize the morbidity from back and neck pain in the fighter community.

1.3. AUTHORITY

1.3.1. AFPD 10-28, *AF Concept Development and Experimentation ACCI 10-280, ACC Concept Development*

1.3.2. AFPD 10-9, *Lead Command Designation and Responsibilities for Weapon systems*

**2.0. ASSUMPTIONS AND RISKS**

2.1. ASSUMPTIONS

2.1.1. The Fighter Enterprise will continue to be exposed to extremely high G forces, prolonged and repeated exposure to moderate G forces, long duration missions, and aircrew flight equipment, including aircrew helmets with integrated systems, which induce back and neck pain/injuries. According to Military Medicine, 2012, 64% of fighter pilots report spine pain during daily activities and 90% report spine pain during flight. The CSAF reported that in FY16 there was a 700 fighter pilot shortfall that continues to grow, although not solely due to neck and back pain, however it appears to be a critical component to the exodus of fighter aircrew from the Air Force. The issue of neck and back pain in fighter aircrew requires immediate evaluation and intensive countermeasures.

2.1.2. The need for OHWS is the result of Military unique occupational stressors which require attention and management different from a typical Military Treatment Facility (MTF) clinical population. The unique needs of fighter aircrew, flying Military aircraft in a high-G combat setting, will continue to require interventions unlike other MTF patient populations and therefore need a separate effort to help minimize disability from neck and back pain and minimize mission degradation from neck and back pain. Meeting the needs of fighter aircrew, a low density/high

demand asset, is not likely to occur unless additional resources specifically targeting the complications of combat and combat training are made available.

2.1.3. Habitual on demand relationships between the fighter aircrew community and the required support personnel are critical to effective programs designed to minimize the impact of neck and back pain. The OHWS program functions primarily to prevent neck and back pain through a program of strength and conditioning as well as training on techniques to employ proper mechanics to minimize the trauma of fighter operations. Also, OHWS is intended to prevent significant worsening of neck and back pain by addressing minimal neck and back strain, decreasing the likelihood of advancement of the injury to a more severe injury, potentially even a chronic condition. OHWS is not intended to provide medical care as part of the Defense Health Program under the responsibilities and authorities of the Military Treatment Facilities.

2.1.4. Fighter unit leadership and medical support universally report a concern for underreporting of fighter aircrew back and neck injuries to avoid impact on flying duties. Also, it is the nature of fighter aircrew to endure adversity and continue the mission.

2.1.5. The OHWS program, when fully adopted, would support the entire CAF Fighter Aircrew Enterprise.

2.2. RISKS

2.2.1. Current fiscal constraints may limit facility funding to enhance current space to house OHWS services or in some cases provide for additional space for OHWS services.

2.2.2. Some base medical facilities are providing prehabilitative-type services for fighter aircrew. However, these facilities may not be adequately equipped, staffed, or tailored to meet the unique operational demands of fighter aircrew.

## 3.0. MISSION

3.1. The mission of OHWS is to prepare fighter aircrew for the extreme physical demands of fighter operations through a rigorous prehabilitative program of physical conditioning, overall health improvements, and other measures as directed by OHWS program office. This will reduce the incidence and severity of neck and back pain. It is expected that the quality of life enhancements from the reduction in neck and back pain will result in a higher retention rate for fighter aircrew. The decrease in neck and back pain will also result in a higher rate of aircrew being fully mission capable.

## 4.0. OHWS MANAGEMENT

4.1. HQ ACC/A3: Will provide overall OHWS guidance. Guidance will be promulgated in this OHWS Concept of Operations (CONOP). This CONOP is directive. Any variations from this CONOP require approval from the OHWS PM. For requests for a waiver from any portion of this CONOP submit a memo requesting the waiver to the OHWS Program Manager (PM) explaining the need and describing the request for a waiver.

4.2. MAJCOM OHWS Management: Each MAJCOM accepting OHWS funding will appoint a primary program manager to oversee OHWS implementation. The MAJCOM PM may also act as the MAJCOM Contracting Officer Representative (COR).

4.3. ACC/A3 OHWS PM will appoint a Chief Contracting Officer Representative (C-COR). This position will function as the overall COR for the combined ACC/PACAF/USAFE contract. The C-COR will provide all required reporting information to the ACC Acquisition Management & Integration Center (AMIC) Contracting Officer (CO) overseeing the ACC AMIC-executed OHWS ACC/USAFE/PACAF contract. Contract compliance for the ACC/PACAF/USAFE OHWS contract will be determined through reference to the OHWS Quality Assurance Surveillance Plan (QASP) produced by AMIC.

4.4. USAFE and PACAF PMs will appoint a MAJCOM COR. All information required for OHWS contract monitoring will be collected by the USAFE and PACAF OHWS CORs who will provide this information to the ACC OHWS COR. The timing for all required reporting will be in accordance with the contract PWS, the OHWS QASP, and as otherwise directed by the ACC OHWS PM.

4.5. Other MAJCOMs' (AETC, AFMC, ANG, AFRC) OHWS PM will determine requirements to ensure compliance with OHWS guidance and compliance with contract obligations.

4.6. All MAJCOMs will ensure compliance with all OHWS program data reporting requirements for their MAJCOM program and as required by ACC for overall OHWS program monitoring and assessment. These reporting requirements are noted in this CONOP, as directed by the OHWS PM, and as required for each OHWS contract.

4.7. Each wing receiving OHWS funding or services will appoint an overall OHWS Point of Contact (PoC) who will function as the primary point of contact for OHWS interactions with the MAJCOM and, if needed, interactions with ACC. The SME is formally nominated by their chain of command and will receive contract-specific training from the MAJCOM COR or MAJCOM COR designated trainer. Training will, at a minimum, consist of functional SME responsibilities, ethics, and review of applicable regulations along with a detailed discussion of the contract. The base OHWS PoC will ensure compliance at that base with all OHWS policy requirements and monitor contract compliance. The PoC will oversee the performance of the contract employees within the scope of knowledge of the PoC and will obtain other Government expertise if there is a concern outside of the PoC's training. The PoC will have routine interaction with the contract employee(s) during the performance of PWS tasks. When a PoC identifies technical or functional inaccuracies, they will notify the MAJCOM COR immediately, NLT five (5) business days of the discovery. The PoC will collect OHWS data as needed and requested to assess the effectiveness of the OHWS program and data as needed for contract compliance. The PoC at each location will transmit information as required by the MAJCOM COR and the ACC C-COR to include:

4.7.1. Monthly Surveillance Report

4.7.2.Quarterly data collection and analyses reports

4.7.3.Monthly human performance and pre-habilitative trending metrics

4.7.4.Other reportable data as directed by the ACC or MAJCOM COR

## 5.0. GOALS

5.1. Readiness Objectives: The objective of the OHWS program is the prevention of impairment from neck and back pain experienced by fighter aircrew. This reduction in neck and back pain will enhance readiness (prehabilitation), as discussed in paragraph 1.0. This will be

accomplished by decreasing the amount of time each fighter aircrew member is not fully mission capable and by increasing the overall availability of fighter aircrew by improving the retention of fighter aircrew. Tailored prehabilitation will:

5.1.1. Provide prehabilitative strength and conditioning on par with professional or collegiate athletes emphasizing the muscle groups which will have the greatest impact on neck and back injuries.

5.1.2. As relevant to the prehabilitative program to reduce neck and back injury, advance a healthy life style which will enhance prevention of disease, enhance injury reduction, and expedite the return to duty after musculoskeletal injury.

5.1.3. Decrease the DNIF rate for fighter aircrew.

5.1.4. Decrease medical profiles for fighter aircrew.

5.1.5. Improve the quality of life for fighter aircrew.

5.1.6. Decrease the rate of medical retirement/separations for fighter aircrew.

5.1.7. Increase the retention rate for fighter aircrew.

## 6.0. OHWS PROGRAM IMPLEMENTATION

### 6.1. Approach and General Plan

6.1.1. The approach for OHWS involves two prehabilitative goals; first, to provide resistance to neck and back injury through a process of prehabilitative core strengthening and conditioning and prehabilitative fitness; second, to address the minor strains and sprains of the neck and back musculoskeletal systems to provide early intervention decreasing the likelihood of more severe and persistent injury.

6.1.2. There are multiple possible innovative approaches to achieve the goal of decreasing neck and back pain through strengthening and conditioning and addressing early the signs and symptoms of neck and back pain. The current evidence is lacking regarding the optimal approach to neck and back pain prevention. For this reason there is no single program mandated to provide OHWS supported neck and back pain prevention.

6.1.2.1. Based on data from available studies and based on success, albeit of a short duration, of other programs, ACC, USAFE, and PACAF will contract services for athletic trainers (ATs) and massage therapists (MTs) for all associated fighter locations. The plan is to contract for approximately one AT for every 30 fighter aircrew and for approximately one MT for every 100 fighter aircrew.

6.1.2.2. Other MAJCOMs, apart from ACC, PACAF, and USAFE, who receive OHWS funding (AFMC, AETC, AFRC, and ANG), will each determine the best approach to the use of OHWS funding to prevent neck and back pain in fighter aircrew. These approaches will be varied due to the lack of clear evidence supporting one approach, due to the particular needs of the fighter aircrew in their MAJCOM, due to the possible synergies with other programs and resources, and due to particular constraints imposed by law and regulation.

6.2. OHWS Funding

6.2.1. OHWS funding levels are advocated for by ACC, the lead OHWS MAJCOM, and managed through the Program Element Manager (PEM) at AF/A3. All MAJCOMs with a stake in OHWS should provide advocacy as deemed appropriate through their MAJCOM as well as through ACC OHWS program leads.

6.2.2. For any service, supplies, or equipment, expenditures should be reviewed to determine the expenditures is a necessary expense and meets the strict, limited purpose of the OHWS program.

6.2.3. OHWS funding may be used to procure prehabilitative contract services for neck and back pain prevention. These contracted services may entail hiring personnel to work within a fighter squadron or fighter group to provide prevention services involving fitness, strength and conditioning, as well as services to address range of motion and preflight preparation and post-flight recovery.

6.2.4. MAJCOMs may in some cases develop a contract with local facilities to provide services for OHWS. These services would reasonably involve strength and conditioning, working on range of motion, or working on prehabilitative fitness. If on-base resources or on-base contracted services are not available, MAJCOMs may review off-base services, limited solely to support the OHWS mission.

6.2.5. OHWS is not intended to be a general fitness program nor provide medical care under the responsibilities and authorities of the Military Treatment Facilities. Where medical care, including clinical medical services, may otherwise augment OHWS programs the MAJCOM and base must ensure compliance with all applicable guidance, policy, and law.

6.2.6. Use of OHWS funding for the provision of medical services may be impacted by AF policy, DoD policy, and law, which may in some cases restrict the use of funding for medical services in some settings and for some Air Force populations.

6.2.7. Facilities and Equipment: Equipment, (such as bands, pads, belts or other equipment/supplies), for OHWS may be necessary to support the OHWS mission. Any potential acquisition with OHWS funding requires careful consideration regarding how the equipment/supplies directly support the prehabilitative purpose of the OHWS program. If there is a contract for OHWS services, the contractor may require certain equipment items needed for the performance of contract services. In a situation where the contractor is requiring specific equipment, and this equipment is not already available to the unit, such equipment will typically be supplied by the contractor. OHWS-funded equipment, whether Government-owned or contractor-owned, will be controlled and limited to the specific OHWS purpose, and not for personal issue or convenience.

6.2.7.1. Each massage therapist will require equipment and supplies in order to complete their specific functions. These equipment and supply items are not limited by brand or type of equipment. Additional equipment and supply items may be requested by the massage therapist.

6.2.7.2. Each AT will require equipment and supplies in order to manage the pre-rehabilitative, post exercise recovery program and perform AT support functions. These equipment and supply items are not limited by brand or type of equipment. Equipment purchases intended for OHWS will be coordinated through the OHWS PM prior to purchase. This will ensure appropriateness of the equipment and help increase the effectiveness of the program. The OHWS PM will assist with equipment recommendations for the OHWS program.

6.2.7.3. Strength and conditioning equipment and perishable supplies will be necessary for the completion of the musculoskeletal fitness and training requirements for OHWS. This equipment may include functional fitness, strength training, electronic monitoring, and cardio equipment. Equipment purchases intended for OHWS will be coordinated through the OHWS PM prior to purchase. This will ensure appropriateness of the equipment and help increase the effectiveness of the program. The OHWS PM will assist with equipment recommendations for the OHWS program.

6.2.8. Ancillary Equipment: Other specialized equipment may be used to enhance OHWS operations. Such equipment could involve wearable technology monitors, performance assessment devices, as well as other technologic innovations which could improve monitoring and provide enhanced performance guidance. Equipment purchases intended for OHWS will be coordinated through the OHWS PM prior to purchase.

6.2.9. OHWS funding is generally not intended for facility modification. However, if funding is available some funding may be used to enable adaptations to current facilities to optimize the OHWS program at that location. Requests for funding for facility modifications should be made to the OHWS PM for consideration. The total cost of such an effort will be necessary before any such considerations can be made.

6.3. ACC/USAFE/PACAF contract effort

6.3.1. The ACC/USAFE/PACAF OHWS program will be made up primarily by contract personnel who will work directly with fighter aircrew. The contract will be procured by ACC's AMIC and managed jointly between ACC/A3T and AMIC with support from PACAF and USAFE. The makeup of the OHWS contracted personnel will be athletic trainers (ATs), certified strength and conditioning specialists (CSCSs), and massage therapists (MTs). The primary effort of OHWS will be completed by ATs who will be allocated for every fighter squadron covered by the ACC contract. Additionally a lesser number of MTs will be utilized to help address the common neck and back strain associated with fighter operations.

6.3.2. The exact laydown at each location will be based on the number of aircrew at the location and any specific requirements at the location. Laydown will be determined by the ACC OHWS Program Manager (PM) for ACC, PACAF, and USAFE. In ACC/PACAF/USAFE there will be roughly one AT per fighter squadron, one MT per base, and CSCSs will be used in isolated situations as needed to fill gaps. Other MAJCOMs will determine the best use of the funding for their respective MAJCOM, with concurrence of the ACC OHWS PM. Funding for each MAJCOM, which will drive the OHWS level of effort, will be determined by AF/A3.

6.3.3. Training to Safeguard Information: Each OHWS contract employee will adhere to guidance in their contract regarding safeguarding information. Information obtained through the OHWS program will include personally identifiable information (PII) information that contractors will be required to protect and safeguard. To the extent OHWS contractor employees are permitted access to any medical database or other source of protected health information (PHI) the employee will receive appropriate HIPAA training and follow all rules governing the management and security of protected health information.

6.4. OHWS Policy Guidance

6.4.1. Policy guidance for OHWS will be established by ACC with input from all OHWS users. Each MAJCOM will provide OHWS guidance for implementation of their MAJCOM OHWS

programs. Such MAJCOM guidance will not be in opposition to overall OHWS guidance provided by ACC. MAJCOMs may request waivers from ACC OHWS Program Management for any situation if the MAJCOM would like to proceed in a manner not consistent with overall OHWS program guidance.

6.5. Funding for AETC, AFMC, ANG and AFRC

6.5.1. MAJCOMs, not covered by the ACC/USAFE/PACAF contract, with fighter aircrew will receive separate funding and complete separate contract or purchase actions for their MAJCOM program and develop their own OHWS initiatives. The restrictions noted above regarding the use of OHWS funding apply to the efforts and expenditures of all MAJCOMs.

6.6. Neck and Back Pain Prevention Specialists:

6.6.1. There are many strategies which may provide benefit in preventing neck and back pain. Some of the different professionals likely to be beneficial in prevention of neck and back pain are noted below. Other approaches may be beneficial but those listed below are currently believed to have the highest likelihood of success in OHWS efforts. Other approaches may be implemented after coordination with and approval from the OHWS PM. Each MAJCOM is expected to develop or approve programs to assess what is expected to work best for that their location.

6.6.2. Athletic Trainer (AT): ATs provide assessments of involved aircrew. They will often be the primary source of day-to-day OHWS services for aircrew. OHWS ATs are expected to guide aircrew through the training program and provide ongoing feedback to the aircrew member. The AT would typically structure an individualized strength and conditioning program for each aircrew member. This program is the foundation of the prevention, the prehabilitation, at the heart of OHWS. The ATs would be active in the data collection, program monitoring, and any research initiatives to assess effectiveness. The AT would provide feedback to the aircrew member, provide program statistics to the squadron, group, wing, and MAJCOM leadership as directed by policy and as requested.

6.6.3. Certified Strength and Conditioning Specialists (CSCS): CSCSs are optional FTEs for the ACC OHWS contract. CSCSs are not projected to be used in high numbers for the ACC/PACAF/USAFE OHWS contract but will be utilized in some cases. CSCSs may be the appropriate professional for some locations. Also, there may be trials in some locations to assess the effectiveness of different modalities. CSCSs will provide assessments of all aircrew at their location. The CSCS will structure an individualized strength and conditioning program for each aircrew member. This program is the foundation of the prevention at the heart of OHWS. The CSCS would provide day-to-day strength and conditioning training for aircrew. The CSCSs are expected to guide aircrew through the training program and provide ongoing feedback to the aircrew member. The CSCS will be active in the data collection and any research initiatives underway. The CSCS will provide feedback to the aircrew member, provide program statistics to the squadron, group, wing, and MAJCOM leadership as directed by policy and as requested.

6.6.4. Massage Therapist (MT): The MT works within the OHWS program to address the day-to-day musculoskeletal stress and strain resulting from fighter operations. Addressing muscle strain early in the process will likely minimize the severity of the issue increasing the rate of aircrew being fully mission capable and speed the recovery when it results in mission impact. The MT is expected to work with all fighter crew in the population assigned and be active on a day-to-day basis working with aircrew. The MT will likely have a fixed schedule for services to fighter aircrew. The MT will be active in data collection and any research initiatives underway.

The MT will provide feedback to the aircrew member, provide program statistics to the squadron, group, wing, and MAJCOM leadership as directed by policy and as requested.

6.6.5. Other Services: OHWS is not intended to provide medical care under the responsibilities and authorities of the Military Treatment Facilities. However, physical therapists and other medical providers may be beneficial in supporting and furthering OHWS efforts. PTs are privileged providers and provide both injury prevention, human performance and provision of medical care. The implications of including medical services, including privileging must be considered before utilizing other services/providers. Provision of care involves the assessment, diagnosis, development of a treatment plan, or delivering the treatment. If providing clinical services the provider must be appropriately privileged by the local Medical Treatment Facility (MTF) and trained on local procedures.

6.7. Location of Services: OHWS services are optimally located in the fighter squadron for which the services are provided. When at all possible it is best to have the primary source of day-to-day OHWS services be located in the fighter squadron. This allows for brief, high-value interactions for prevention services and allows for the flexibility which will enhance preventive services. Interactions of longer duration, such as those provided by an MT, are impacted less by being located away from the fighter squadron. MT services may be better served by being away from the high paced activity of the fighter squadron and a quiet, spacious area for the MT services would be more conducive to a successful program. A physical conditioning area is beneficial to an overall neck and back pain prevention program. This area is optimally set aside for fighter aircrew as this will allow for an efficient use of the fighter aircrew time and allow for equipment selection optimized for the prevention of neck and back pain.

6.8. Space Requirements: Space requirements for OHWS services are subject to Air Force authorities and procedures included in AFI 32-1024, *Standard Facility Requirements,* and AFMAN 32-1084, *Facility Requirements.* Ensuring the provision of space for OHWS will require thought and planning to ensure OHWS services can be provided in the most efficient manner practical. These consideration should include an assessment of the best location of services, space required for each function of the OHWS program, also an assessment is needed to determine what is practical with regard to obtaining space for the OHWS services. Space for the OHWS program will include an area the Aircrew Performance Center (APC) as well as space for the ATCs and the MTs.

6.8.1. Aircrew Performance Center (APC) space requirements: the APC is a dedicated area for strength and condition of fighter aircrew. Projected space requirements for the APC are based on the APC square foot calculations in appendix 3. Space requirements take into account strength and conditioning requirements, which are broken down into multi-purpose, cardio, and strength training areas. All appendix 3 calculations assume 25% of fighter aircrew are not available to train in the APC at any given point in time due to operational requirements. Sq ft calculations are driven by equipment requirements and to a lesser degree by the number of personnel expected to use the APC at any one time. The difference between the total functional size and actual size is a function of the net to gross area of the building, not all space can effectively be used as workout area. The calculations should include an area for the ATCs and perhaps for the MTs. The calculations accounts for common and ancillary space such as movement around equipment and throughout the facility; corridors, elevators, rooms for mechanical, custodial equipment, lockers, and restrooms. The OHWS APC Calculator is scalable to estimate needed facility size based on number of aircrew at that location and to allow for other variables.

6.8.2. Athletic trainer (ATC) space requirements: The ATCs will perform several neck and back pain prevention services. The ATCs will work on a day-to-day basis working with aircrew pre and post flight to help minimize the impact of muscle strains associated with flight, they will provide more in-depth training for the prevention and recovery from the stresses of fighter

operations, and the ATCs will operate within the APC working with fighter aircrew for advanced strength and conditioning which will be a deterrence to neck and back injury.

6.8.2.1. Providing day-to-day services for fighter aircrew would best be performed using about 600 sq ft. Optimally, this space would be located within the fighter squadron. It is estimated that about one half of the ATC effort will be in this location. This would allow for the ATC to perform the majority of the services necessary for day-to-day services in support of OHWS. A smaller space may be used for the day-to-day services, however less than 400 sq ft would significantly limit the ability of the ATC to provide these services.

6.8.2.2. The ATCs will also function to train aircrew on more in-depth recovery techniques. These services could be performed in the space within the fighter squadron if that space is large enough. This would require a minimum of 600 sq ft. This space would allow for more equipment allowing for advanced training and recovery techniques. This function could also be located in the APC if there is not sufficient space within the fighter squadron.

6.8.2.3. Lastly, the ATCs will work with aircrew to provide advanced physical conditioning training. This aspect of the ATC work will need to be performed within the APC. To meet this requirement the space needed for the ATC within the APC can be calculated using the space calculator in appendix 3.

6.8.3. Massage therapist (MT) space requirements: The massage therapist may be located within the APC or in another central location to support all fighter aircrew. the space needed for the MT is approximately 150 sq ft.

## 7.0.PROVISION OF SERVICES

7.1. Neck and Back Pain Program

7.1.1. The OHWS program centers on prehabilitation and decreasing the burden of neck and back pain caused by the high-G operations of fighter aircraft. The forces involved in such operations result in a massive force on the neck and back. These forces are well beyond the instantaneous forces encountered for other physical endeavors. As fighter aircrew may be at very high G levels for tens of seconds at a time and repeatedly be in that prolonged high-G environment during a single flight, the cumulative effect severely challenges fighter aircrew. Furthermore, the extremely fast rate of G onset of high performance fighters is also an issue worsening the neck and back pain problem. The intent of OHWS services is to decrease the level of neck and back pain encountered by fighter aircrew through the process of prehabilitation which will be performed by training and strengthening fighter aircrew to help prevent neck and back pain as well as processes to address minor neck and back issues as they develop and before more serious issues evolve.

7.1.2. Prehabilitation Versus Medical Care: As currently intended OHWS services primarily involve prehabilitation (prevention) as opposed to treatment. The OHWS program is neither intended nor authorized to provide medical care under the responsibilities and authorities of the Military Treatment Facilities. Medical care involves the assessment of patients in order to make a diagnosis, develop a treatment plan, or carrying out a treatment plan. Aeromedical Disposition is required after any medical treatment but is not required when utilizing the preventive aspects of OHWS services. The OHWS services generally do not require aeromedical disposition. When circumstances occur when there is a question as to the need for an aeromedical disposition a flight surgeon will be contacted to make a determination as to the need for an aeromedical decision.

7.1.3. Neck and Back Pain Prevention Program: This program is targeted toward prehabilitation and includes neck and back pain prevention through neck and back strengthening, correcting improper movement patterns, evaluation of biomechanics, flexibility, and mobility evaluations of fighter aircrew. The strengthening program will address specific muscle groups as well as supporting, core muscle groups.

7.1.4. In most situations a contractor is responsible to develop a program for strength and conditioning to best meet the goal of injury prevention and provide for optimal performance in fighter aircrew. This program will be submitted to the OHWS PM for approval before being put into operation.

7.1.5. Musculoskeletal Injury: Treatment is not part of the ACC/USAFE/PACAF OHWS contract. OHWS is not intended to provide medical care under the responsibilities and authorities of the Military Treatment Facilities. However, despite the best prevention program possible, there will continue to be some musculoskeletal (MSK) stressors and strains, as well as more severe injury. It is vital to the success of OHWS that there be a close working relationship between OHWS contract personnel and the local flight surgeons.

7.1.6. Infection Prevention: For areas where services are provided Infection Prevention activities will meet or exceed the Centers for Disease Control (CDC) guidance in *Guide to Infection Prevention for Outpatient Settings: Minimum Expectations for Safe Care*, available on the CDC website: search "*Minimum Expectations for Safe Care*" on the CDC website. The host Military Treatment Facility Infection Prevention (IP) Officer, the Chief of Medical Staff, or the Chief of Aerospace Medicine will provide assistance on request to help with infection prevention compliance.

7.1.7. Emergencies: All OHWS staff will be trained to the Basic Life Support (BLS) level and will provide BLS for patient medical emergencies, while calling for emergency medical assistance through the 9-1-1 system. BLS training is a requirement for employment and is the responsibility of the contractor to ensure this training is completed. All Military facilities have a Public Access Defibrillator (PAD) program. OHWS locations will be assessed through the base PAD program to determine if placement of an AED is appropriate. The unit's flight surgeon will be the link to ensure compliance with the base PAD program. If it is determined an AED is appropriate the AED will be part of the base PAD Program. This level of response may be different than the level of response provided at the local MTF.

7.2. Health Education

7.2.1. As relevant to prehabilitation and neck and back stressors/injury, health education will also be an important part of OHWS. Overall health is an important component in injury prevention and will enhance the effectiveness of all prehabilitation efforts. As experts in healthy lifestyles, the OHWS employees may provide education on lifestyle modifications in terms of diet, exercise, smoking cessation, education on safe supplement use, and other lifestyle education as appropriate. The OHWS personnel will regularly reinforce healthy lifestyle choices. They will provide a non-vendor specific list of any recommended diet supplements to the ACC OHWS PM for review and approval before recommending any dietary or nutritional supplements to aircrew. The Uniformed Services University Operation Supplement Safety Website will be the primary reference when making recommendations regarding use of supplements by active duty members. The OHWS population of fighter aircrew have a more restricted list of supplements as compared to other active duty members.

7.3. Data Collection and Research

7.3.1. Subject to the approved Institutional Review Board, the OHWS program will conduct data collection for monitoring the program to help refine and improve services under the program and to provide quality control. It is acknowledged that the information being monitored for OHWS will certainly require changes as the Government better determine the information needed to monitor the program. All OHWS sites are expected to respond to calls for changes in data collection and to provide suggestions on what data is needed to optimize the program.

7.3.2. Data collection will be performed to ensure the results of OHWS are assessed and the program monitored for improvement. Data collection may contain personally identifiable information (PII). If medical services are provided in support of the OHWS program, all appropriate policies and restrictions regarding the use of Protected Health Information (PHI) will be observed ensuring there is compliance with all local policies and HIPAA law. OHWS data will be coordinated with the local MTF SGP and presented at the Aerospace Medicine Council as requested by the local SGP and/or as directed by the MAJCOM/SGP. If a medical database, such as ASIMS, is used for data collection, anyone having access to ASIMS PHI data must have appropriate HIPAA training and comply with all policies and guidance regarding PHI.

7.3.3. All organizations who receive OHWS funding in any form are responsible to provide OHWS data and other information, as requested by ACC, to the ACC OHWS PM or designated OHWS data manager (DM). All data transmitted regarding OHWS will be sent via NIPR encrypted email. Send all data to the OHWS email workflow at ACC.OHWS.Workflow@us.af.mil.

7.3.4. DNIF Information: Each organization will supply DNIF rates to their MAJCOM COR who will consolidate information and supply the information to the OHWS PM/DM. The information will be broken out to the squadron level. The local flight medicine office will pull the information from ASIMS and provide this de-identified information to the OHWS contractor. If there is no OHWS contractor in place the information will be provided to the local OHWS SME.

7.3.4.1. DNIF information will be broken down by crew position, pilot or weapon systems officer (WSO). Information will be broken down by age of the aircrew member by decade of life increments (20s, 30s, etc.).

7.3.4.2. DNIF specific for neck or back pain will be broken down by rate for the unit (total number of days of DNIF for neck and back pain in the month divided by the number of aircrew), and broken down by crew position and age.

7.3.5. MEB Information: For any aircrew who undergoes a RILO (any type) for neck or back pain the Flight Operational Medicine Clinic (FOMC) will send the following de-identified information: list of diagnoses, date of the RILO submission, date of initial diagnosis, and report the results of the RILO including any restrictions. The local flight medicine office will pull the information and provide this de-identified information to the OHWS contractor. If there is no OHWS contractor in place the information will be provided to the local OHWS SME.

7.3.6. Flying Waiver Information: For any aircrew who requires a flying waiver for neck or back pain the FOMC will send the following de-identified information: list of diagnoses, date of the waiver submission, date of initial diagnosis, and restrictions resulting from the flying waiver. The local flight medicine office will pull the information and provide this de-identified information to the OHWS contractor. If there is no OHWS contractor in place the information will be provided to the local OHWS SME.

7.3.7. OHWS Survey: The most recent version of the OHWS assessment survey will be administered to each aircrew member each year. Survey will be completed during the months of Jan through end of Mar and be administered at other times as directed by the OHWS PM.

7.3.8. OHWS Contractor Workload: Each location with an OHWS contractor at that location will report the data on aircrew for whom services are provided. This information will include the name of the contract employee, the specialty of the employee, and a breakdown of services provided to aircrew. The breakdown of services provided will include: the number of aircrew seen once, twice, etc.; also include the number of encounters by duration (number less than ten minutes, number between ten and twenty minutes, etc.). This information will be collected and consolidated by the location OHWS SME and sent to the MAJCOM OHWS PM, delivered by the 10th of each month.

7.3.9. Research: It will be vital to ensure OHWS is performing as well as possible. Assessing the effectiveness of OHWS may be aided by performing research to find what is and what is not effective in the prevention of MSK injury for aircrew. Any study of OHWS effectiveness must be approved by the OHWS PM in order to determine if such assessment may require review by the Institutional Review Board (IRB). Additionally, the OHWS PM will communicate all research activities to the 711 HPW and obtain feedback and recommendations from the 711 HPW.

7.3.10. Data collected by OHWS personnel and data collected through OHWS specific processes will be used only for the OHWS program. Although OHWS data is not privileged/protected and may be used for any official Government purpose when appropriately directed, OHWS data is not contemplated to support go-no-go decisions, for DNIF decisions, for MEB processing, or for safety investigations, or for legal investigations. At locations where the OHWS program is providing medical care by privileged medical providers that information will be used for medical programs the same as medical information obtained from other medical sources.

7.4. Additional Guidance for Efforts Other Than ACC/PACAF/USAFE

7.4.1. ANG and AFRC locations: OHWS funding has been designated for ANG and AFRC fighter locations. ANG/AFRC will determine the best option for each location with the goal of providing the best services possible for the prevention of neck and back injury for fighter aircrew. These locations may find that contracting with an individual to provide OHWS services works best at their specific base. It may also be necessary to contract with off-base contractors to meet the OHWS mission. Regardless of the proposed program design, each location will submit an intended plan for the provision of the services to their MAJCOM OHWS program lead for approval, then submit the plan to the ACC OHWS PM for approval before committing to a course of action.

7.4.2. Other MAJCOMs receiving OHWS funds are AETC and AFMC. Although ACC does not have authority over spending of other MAJCOMs' funding for OHWS, ACC does have overall policy guidance responsibilities for all of OHWS. ACC must receive coordination on all OHWS spending. Each MAJCOM will provide data to the ACC OHWS PM as derived from OHWS.

## 8.0. CONTRACTING ACTIONS

8.1. Contract for OHWS program assets may be executed at the MAJCOM-level for all of the MAJCOM's OHWS assets, or the MAJCOM may distribute funding to their bases to support the OHWS effort.

8.2. ACC will perform contract efforts for overall performance of the OHWS program for ACC, USAFE, and PACAF. USAFE and PACAF may request to opt out of the ACC OHWS contract with notice as described in the OHWS memorandum of agreement.

8.3. For the contract for ACC, PACAF, and USAFE the overall program management will be performed by the ACC OHWS PM and AMIC contracting officer. The ACC OHWS PM will provide guidance and assist with resolution of any challenges encountered during OHWS implementation.

8.4. Each MAJCOM with OHWS contract efforts will appoint and train Contracting Officer Representative (COR) primary and alternates for any OHWS contracts. Each base with OHWS contract services will ensure appointment of a COR to ensure services are provided in an effective manner and to ensure all required documentation for the contract is completed. Any issues noted by the local COR will be immediately communicated to the MAJCOM COR or lead for OHWS. PACAF and USAFE CORs will communicate with the ACC OHWS COR whenever there is an issue with the OHWS services. The ACC OHWS COR will communicate any concerns to the contract officer overseeing OHWS.

## 9.0. OHWS CONTRACTOR ASSOCIATION WITH LOCAL MTF AND LINE UNIT

9.1. OHWS is not intended to provide medical care under the responsibilities and authorities of the Military Treatment Facilities, however, due to the mission of OHWS and the MTF mission there may be a necessary and mutually beneficial relationship between the MTF and the OHWS program. This relationship will primarily be with the local flight medicine clinic but may also involve interactions with physical therapy, dietician, as well as others. This relationship will be best supported by regular contact with the MTF and a close working relationship with the flight surgeon responsible for the population being served by OHWS.

9.2. OHWS and MTF interactions:

9.2.1. The goal is for the OHWS staff to cooperate with the MTF flight medicine clinic as necessary. OHWS-funded staff will not participate in any MTF operations or responsibilities, except as noted in this document and the contractor performance work statement, in coordination with the local MTF.

9.2.2. The SGP and squadron flight surgeons will be the primary MTF liaisons for OHWS. MTF leadership will, if necessary, make determinations as to the definition of what is medical care and thus must be performed by a privileged provider and documented appropriately, and what does not require a provider or clinical documentation.

9.3. OHWS staff will:

9.3.1. Provide all services in accordance with this CONOPS and all DoD, AF, and MAJCOM policy.

9.3.2. Work with the flyer, an MTF flight surgeon, and unit leadership whenever there is a flyer with a medical condition which has not been assessed by a flight surgeon.

9.3.3. OHWS contractor is encouraged to attend the local MTF prostaff meetings.

9.3.4. Provide briefings as requested by the MTF SGP explaining the operations of the OHWS program.

9.3.5. Provide services only for fighter aircrew. For briefings in a group setting, OHWS may permit attendance by non-aircrew as long as the overall intent of the briefing is to serve the fighter aircrew population.

9.4. The line unit supported by OHWS will:

9.5. Supply standard office supplies for the OHWS team. This will include computer access as needed and as appropriate for the tasks being performed and consistent will all applicable policy.

9.6. Supply a suitable work environment for the OHWS team as noted in 5.2. and subparagraphs above.

9.7. Provide feedback to the OHWS team and the OHWS PM as needed and as requested.

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TED T. UCHIDA
Senior Executive Service, DAF
Deputy Director of Operations

# Appendix 1 – Acronym Listing

ACC – Air Combat Command
AETC – Air Education and Training Command
AFB – Air Force Base
AFE – Aircrew Flight Equipment
AFRC – Air Force Reserve Command
AFMC – Air Force Material Command
AMIC – Acquisition Management & Integration Center
ANG – Air National Guard
ASIMS – Aeromedical Systems Information Management System
ATC – Athletic Trainer
CSCS – Certified Strength and Conditioning Specialist
CSAF – Chief of Staff, United States Air Force
C-COR – Chief Contracting Officer Representative
CAF – Combat Air Forces
COMACC – Commander Air Combat Command
CONOP – Concept of Operations
COR – Contracting Officer Representative
DM – Data Manager
DoD – Department of Defense
DNIF – Duties Not Including Flying
FTE – Full Time Equivalent
HIPAA – Health Insurance Portability & Accountability Act
JHMCS – Joint Helmet Mounted Cueing System
MAJCOM – Major Command
MT – Massage Therapist
MEB – Medical Evaluation Board
MTF – Military Treatment Facility
MILCON – Military Construction
MDS – Mission Designated Series
MSK – Musculoskeletal
NIPR – Unclassified Internet Protocol Router
NVG – Night Vision Goggles
OCR – Organizational Change Request
OHWS – Optimizing the Human Weapon System
OPSEC – Operations Security
PACAF – Pacific Air Command
PWS – Performance Work Statement (Contract)
PII – Personally Identifiable Information
PT – Physical Therapist
PEM – Program Element Manager
PM – Program Manager
POM – Program Objective Memorandum
PHI – Protected Health Information
QASP – Quality Assurance Surveillance Plan

RILO – Review In Lieu Of [MEB]
SGP – Chief, Aerospace Medicine
SME – Subject Matter Expert
TDY – Temporary Duty
TFI – Total Force Integration
UMD – Unit Manpower Document
USAF – United States Air Force
USAFE – United States Air Forces Europe

## Appendix 2: ACC/PACAF/USAFE OHWS Tentative Laydown Plan

A2.1. The intent with the OHWS program is to provide sufficient OHWS staff such that there is adequate personnel to work with fighter aircrew and minimize the disruption to the many duties of the fighter aircrew. To this end, OHWS will staff about one OHWS staff member for each 30 aircrew.

A2.2. Staffing for FY 20 ACC/PACAF/USAFE OHWS operations are funded to supply the full expected program staffing level. The goal will ensure as much access as possible to ATs with the initial hiring. Additional ATs and MTs may be placed as unit need is determined. The contract has some optional FTEs which may be activated if needed. CSCS FTEs may be utilized at select locations as need is identified.

A2.3. Staffing at ACC, USAFE, and PACAF fighter locations is noted below. Laydown for all other MAJCOMs, including AFRC and ANG, will be determined by the MAJCOM. The laydown plan is a proposal and may change based on the recommendation of the MAJCOM and the OHWS PM.

TABLE A1.1 FY-19 Tentative Laydown Plan ACC, PACAF, and USAFE

| Wing | INSTALLATION | ATs | MTs | CSCSs |
|---|---|---|---|---|
| 9 RECONNAISSANCE WG | BEALE | 1 | 0 | 0 |
| 355 FIGHTER WG | DAVIS-MONTHAN | 2 | 1 | 0 |
| 53 WING WG | EGLIN | 2 | 1 | 0 |
| 388 FIGHTER WG | HILL | 3 | 1 | 0 |
| 1 FIGHTER WG | JB LANGLEY-EUSTIS | 3 | 1 | 0 |
| 23 WING WG | MOODY | 2 | 1 | 0 |
| 366 FIGHTER WG | MOUNTAIN HOME | 4 | 1 | 0 |
| 57 WING WG | NELLIS | 3 | 1 | 0 |
| 53 Test GP | NELLIS | 3 | 1 | 0 |
| 4 FIGHTER WG | SEYMOUR JOHNSON | 6 | 2 | 0 |
| 20 FIGHTER WG | SHAW | 3 | 1 | 0 |
| 325 FIGHTER WG | TYNDALL | 2 | 1 | 0 |
| 354 FIGHTER WG | EIELSON | 2 | 1 | 0 |
| 3 WING WG | JB ELMENDORF-RICH | 2 | 1 | 1 |
| 154 WING WG | JB PRL HBR-HICKAM | 1 | 0 | 0 |
| 18 WING WG | KADENA | 2 | 1 | 0 |
| 35 FIGHTER WG | MISAWA | 2 | 1 | 0 |
| 8 FIGHTER WG | KUNSAN | 2 | 1 | 0 |

| | | | | |
|---|---|---|---|---|
| 51 FIGHTER WG | OSAN AB | 2 | 1 | 0 |
| 31 FIGHTER WG | AVIANO | 2 | 1 | 1 |
| 48 FIGHTER WG | LAKENHEATH | 3 | 1 | 1 |
| 52 FIGHTER WG | SPANGDAHLEM AB | 1 | 0 | 0 |

This laydown plan is notional and will change as further input is made available as to what services are needed and based on resources available.

## Appendix 3: Projected OHWS Facility Requirements

Subject to the authorities specified in paragraph 6.8, projected calculations are baseline square foot requirements for Aircrew Performance Center (APC). To calculate the needs of the APC, units may calculate an approximation of the necessary space using the calculator attached below. The OHWS square foot calculator can be utilized to estimate the space requirements at each location by entering the specific information for that location. If space requirements calculated using this tool exceed the practical limits of space available organizations should review the space needed and the available options to determine the best solution for that location. The APC should be located as close to the flying squadron(s) as practical. Most locations will also benefit from having a separate area within the squadron for the athletic trainer to work with aircrew to address day-to-day needs for fighter aircrew.

CONOP HP OHWS Sq ft calculator.xlsx