

Chapter 16

ROLE OF THE AEROMEDICAL PHYSICIAN ASSISTANT

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“There is a very interesting togetherness between medicine and aviation with which I have been fascinated over the years.”

—Major General (Retired) Spurgeon Neel¹

Introduction

The aeromedical physician assistant (APA) is an essential member of the aviation medicine health care team. While an APA performs their duties under the guidance and supervision of the unit’s flight surgeon (FS), together they jointly manage the unit’s aviation medicine program (AMP). The AMP is supported by a multispecialty and multidisciplinary team to provide the highest quality of medical support to Army aviation operations. The APA is considered a subject matter expert with an intimate knowledge and understanding of aviation medicine. APAs are relied on by the command and the FS to assist with managing the AMP. They ensure compliance with aeromedical requirements and the various Army regulations (ARs) governing aviators and aircrew members. By doing so, APAs ensure the medical readiness of aircrew members, help prevent aviation accidents, and safeguard the execution of aviation operations.^{2,3}

Aviation Medicine Team Structure

The aviation medicine team (AMT) differs in the number of providers and medical specialties according to structure. A combat aviation

brigade will typically contain eight medical personnel in the AMT, whereas general support aviation battalions and other aviation battalions will have five medical personnel in the AMT (Tables 16-1 and 16-2).⁴ Providers in each medical discipline (except the combat medic sergeant and specialist) must complete aeromedical specialty training specific to their medical field before providing health care to assigned aircrew members. Aeromedical specialty training can only be completed at the School of Army Aviation Medicine (SAAM) at Fort Rucker, Alabama.^{3,5}

Requirements

To serve in this position, a PA must:

- pass the Army Class 2 Flying Duty Medical Exam, with a “Qualified” or “Waiver granted” stamp by the US Army Aeromedical Activity, indicating they are fully qualified;
- be in the grade of captain (O-3) through colonel (O-6);
- be assigned or on orders to a modified table of organization and equipment or table of distribution and allowances as an APA; and
- complete the required utilization tour of at least 18 months following completion of the Army Flight Surgeon Course–Primary (AFSCP) training at the SAAM.

Table 16-1. Aviation medicine team in the combat aviation brigade structure.

AOC/MOS	Grade	Title	Branch	Quantity
61N	O-4	FS	MC	1
65DM3	O-3	APA	SP	1
73BN7	O-3	Aeromedical Psychologist	MS	2
68W30	E-6	Combat Medic Sergeant	NC	1
68X20	E-5	Behavioral Health NCO	NC	1
68W10	E-4	Combat Medic Specialist	EN	1
68W10	E-3	Combat Medic Specialist	EN	1

AOC: area of concentration; APA: aeromedical physician assistant; EN: enlisted; FS: flight surgeon; MC: Medical Corps; MOS: military occupational specialty; NC: noncommissioned; NCO: noncommissioned officer; SP: Army Medical Specialist Corps

Training

At the SAAM, APAs attend the 6-week AFSCP (Figures 16-1 and 16-2) and are awarded the M3 (aviation medicine PA) skill identifier upon graduation from the course. Completion of the AFSCP is required for the APA to be credentialed and privileged by the local military medical treatment facility to provide aviation-related medical services.⁶ APAs who have not actively practiced or participated in an AMP for 3 years or more may attend the Operational Aeromedical Problems Course,⁶⁻⁸ conducted annually at SAAM. Students can register for attendance by contacting the SAAM Operations Division.⁷

The APA's understanding and ability to teach and train medical tasks and skills to unit personnel is key to maintaining operational readiness. The APA must be intimately knowledgeable about the US Army Medical Evacuation (MEDEVAC) Standard Medical Operating Guidelines (SMOG) protocols and other standing orders used by critical care flight paramedics (CCFPs) holding the military occupational specialty and additional skill identifier 68WF2.^{9,10} The AFSCP includes content on the SMOG but does not cover its administrative aspects in depth. It is important for APAs to understand that the SMOG protocols and other standing orders must be signed by the unit FS and commander. If a battalion or brigade FS is not available, the medical treatment facility commander assumes the responsibility for the SMOG protocols and other standing orders. APAs must also be skilled and proficient in the

Table 16-2. Aviation medicine team in the general support aviation battalion structure.

AOC/MOS	Grade	Title	Branch	Quantity
61N	O3	FS	MC	1
65DM3	O3	APA	SP	1
68W30	E6	Combat Medic Sergeant	NC	1
68W10	E4	Combat Medic Specialist	EN	1
68W10	E3	Combat Medic Specialist	EN	1

AOC: area of concentration; APA: aeromedical physician assistant; EN: enlisted; FS: flight surgeon; MC: Medical Corps; MOS: military occupational specialty; NC: noncommissioned; SP: Army Medical Specialist Corps



Figure 16-1. First Lieutenant John D. Howell practices hoist operations for an ambulatory patient at the Dust Off Training Complex at the School of Army Aviation Medicine, Fort Rucker, Alabama; January 14, 2020. Photo courtesy of Major Timothy B. Pekari.



Figure 16-2. Captain Samuel Cheek sits inside a helicopter spatial disorientation simulator, preparing to experience the Coriolis effect, at the School of Aviation Medicine, Fort Rucker, Alabama; January 14, 2020.

Photo courtesy of Major Timothy B. Pekari.

required sustainment and deployment training as directed in Department of Defense Instruction (DODI) 1322.24, *Medical Readiness Training*,¹¹ and DODI 6040.47, *Joint Trauma System*.¹²

Aviation Medicine Program

Aviation commanders are ultimately responsible for establishing an AMP.¹³ However, the FS is the medical director and medical authority

responsible for the AMP's execution. The APA is considered a medical technical advisor to the commander and assists the FS in developing the commander's aeromedical training program, the commander's approved air ambulance clinical operations standing orders, and treatment guidelines based on the CCFP SMOG.^{9,14}

The APA routinely assists the FS in completion of both clinical and nonclinical duties. Aviation medicine duties include all functions of health service support and force health protection. The APA should participate in all aspects of the Aviation Safety Program and assist the FS in developing and updating medical tasks and requirements of the pre-accident plan. Absent an FS, potentially due to operational requirements (aviation units split between rear and forward operations), the commander may require the APA to assume primary responsibility for all aviation medicine duties. However, the APA will need to coordinate for a supervisory FS at the next higher echelon or from an adjacent unit.⁶

Additional Duties

Although they may be authorized to conduct flight duties at command discretion, APAs have no regulatory obligation to do so. At this time, there is no established guidance for APAs to earn senior or master flight surgeon wings. This issue is known, and updating the current regulations will require concurrence from the aerospace medicine consultant. Otherwise, if an FS is operationally absent or not assigned, the APA is expected to participate in the commander's Aircrew Training Program (ATP). Therefore, the APA should meet all ATP requirements, successfully complete the annual proficiency and readiness testing, and attain the minimum flight hours to maintain currency for hazardous duty incentive pay for flying.^{15,16} Completion of ATP requirements are documented on DA Form 7120, Commander's Task List, and DA Form 7122, Crew Member Training Record, for each aircraft the APA is considered qualified for and will fly regularly.¹⁷ The APA may also assist with monitoring the aviation life support equipment (ALSE) program, including supervising the fitting and use of ALSE and crewmember personal safety equipment. However, it is important to note that the APA is not a substitute for an FS in these activities, per AR 40-68, *Clinical Quality Management*.⁶

Nor can the APA substitute for the FS in aircraft mishap investigations or flight evaluation boards (FEBs), or sign reports

for these investigations or FEBs.⁶ An FS must be on the accident investigation board if the accident involves injuries or problems with personal protective equipment, egress from the aircraft, MEDEVAC, or rescue or survival, per AR 385-10, *The Army Safety Program*, and AR 40-21, *The Medical Aspects of Army Aircraft Accident Investigation*.^{18,19} The APA may assist in these investigations, but the FS must manage casualties, assist at the mishap site, and obtain any necessary lab specimens for biochemical testing.

Although stated otherwise in AR 40-68, there can be extenuating circumstances when an APA performs an aviation accident investigation⁶: in remote locations where an FS is physically unavailable and contingent on the aviation accident class (Table 16-3).²⁰ In these cases, the supervising FS must remotely guide the APA through conducting the initial mishap site assessment, evaluation, treatment, and specimen or data collection from crewmembers in the mishap.^{18,19,21}

Aviation Medicine Team Timeline

As a crucial member of the AMT, the APA should coordinate with the FS to establish goals during the first 30, 60, and 90 days after arriving at a unit. AMT goals should be easily actionable and focused so they can be accomplished within the defined timeframe. Achieving the established goals ensures the success of the AMT's mission of supporting the aviation community. Several resources are available to assist APAs in accomplishing these goals, including the Joint Technical Data Integration (JTDI) website,²² for viewing the US Army Forces Command commander's aeromedical-specific Aviation Resource Management Survey (ARMS) guide; the US Army Operational Aviation Medicine group in MilSuite, for examples of aviation medicine and other administrative standard operating procedures⁷; and the US Army Combat Readiness Center for additional specific guidance on safety regulations, procedures, and readiness information.^{23,24} Table 16-4 lists suggested 30-, 60-, and 90-day AMT goals.

Lessons Learned and Tips for Success

APAs are key to ensuring the medical readiness of aviation units. With the inception of newly codified medical readiness guidance, it is important that aviators are not just fit for flight duties, but fully medically

Table 16-3. Army aviation accident classifications.

Class	Property damage and/or injury/occupational illness
A	\$2M or more and/or Army aircraft, missile, or spacecraft missing, destroyed, or abandoned. Fatality or permanent total disability. NOTE: a destroyed, missing, or abandoned UAS will not constitute a Class A accident unless repair or replacement is \geq \$2M.
B	\geq \$500K, but $<$ \$2M. Permanent partial disability and/or three personnel are hospitalized as inpatients.
C	$>$ \$50K but $<$ \$500K. Nonfatal injury or occupational illness resulting in days away from work beyond the day/shift when the injury occurred.
D	$>$ \$2K but $<$ \$50K. Nonfatal injury or illness resulting in restricted work, transfer to another job, medical treatment more than first aid, needle stick injuries and cuts from sharps that are contaminated with another person's blood or other potentially infectious material, medical removal under medical surveillance requirements of an OSHA standard, occupational hearing loss, or a work-related tuberculosis case.
E	$<$ \$2K and/or an operational or maintenance mission is interrupted or not completed (intent for flight may or may not exist) due to fair wear and tear or malfunction of a component or part.
F	Unavoidable aircraft turbine engine damage as a result of internal/external FOD.

Data source: Headquarters, Department of the Army. *Army Accident Investigations and Reporting*. HQDA; March 18, 2015. DA Pamphlet 385-40 Accessed July 8, 2020. https://armypubs.army.mil/epubs/DR_pubs/DR_a/pdf/web/p385_40.pdf

FOD: foreign object damage

OSHA: Occupational Safety and Health Administration

UAS: unmanned aircraft system

ready to deploy, fight, and win in the multi-domain operational environment and large-scale operations. Conserving the flying force should not be a distraction from obtaining and sustaining the aviation unit's medical readiness standard.

The APA is not only a practitioner of aviation medicine for their unit, but is also considered a special staff officer. The APA assists with forming a bridge between the AMP and unit commanders. To optimize success, the APA should thoroughly understand the relationships and responsibilities of the FS, the AMT, and unit leadership, as well as the applicable regulations governing the AMP in order to successfully execute full-spectrum aviation operations.

Table 16-4. Aviation medicine team goals timeline.

Time period	Goals
Complete within 30 days	<ul style="list-style-type: none"> • Complete unit in-processing; become integrated into the unit headquarters, especially the operations (S3) staff, other unit leaders, and medical section personnel. Reinforce AR 40-8, <i>Temporary Flying Restrictions Due to Exogenous Factors Affecting Aircrew Efficiency</i>, requirements and understanding of individual responsibilities of all unit assigned aircrew members.¹ • Ensure physical and electronic system access training requirements are current and completed for medical personnel assigned.²⁻⁴ • Gain and maintain access to electronic systems used for monitoring and documenting the medical care of aircrew members.^{5,6} • Review medical supply and equipment inventory. Begin requisition process for replacing medical supplies.⁷ • Update or establish an automated or manual tracking system for the medical equipment maintenance program; ensure all biomedical equipment is functional and calibrated in accordance with federal regulations, Army directives, manufacturer literature, or other applicable standards.^{8,9} • Review previous aeromedical-specific FORSCOM ARMS results; maintain and reinforce best practices or develop and implement a plan to correct deficiencies over the next 60 to 90 days.¹⁰
Complete within 60 days	<ul style="list-style-type: none"> • Review, update, and correct deficiencies of the unit's individual flight records folders for applicable medical waivers and approval letters; electronic health records; medical readiness; and DD Form 2992s, Medical Recommendation for Flying or Special Operational Duty.^{5,6,11,12} • Update or generate unit administrative, aviation medicine, and personnel recovery standard operating procedures.^{10,13-15} • Participate in the unit's Pre-accident Plan Safety Council; schedule AAP surveys; record identified and corrected deficiencies in the unit hazard log.¹⁶ • Continue to correct deficiencies of the aeromedical portion of the FORSCOM commander's ARMS guide. • Obtain a copy of flight duty appointment orders; participate in the commander's ATP.¹⁷⁻²⁰ • Begin making regular visits to aviation hangars, airfields, and other spaces to assess unit esprit de corps and safety consciousness of aircrew.

AAP: aviation accident prevention
 ALSE: aviation life support equipment
 ARMS: Aviation Resource Management Survey
 ATP: Aircrew Training Program
 FORSCOM: Forces Command
 ICTL: individual critical task list

Table 16-4 continued.

<p>Complete within 90 days</p>	<ul style="list-style-type: none"> • Complete correction of deficiencies of the aeromedical portion of the FORSCOM commander’s ARMS guide; review the entire ARMS checklist and ensure all additional requirements are accounted for and completed. • Maintain proficiency and currency with the deployment readiness training and the current 60 readiness requirements listed in the ICTL approved on July 19, 2019.²¹⁻²³ • Review and schedule, through the unit S3, medical-specific training requirements for assigned medical personnel.²²⁻²³ • Collaborate and coordinate with the FS, the unit’s aviation safety and standards officer, and the S3 to schedule quarterly safety stand-down lectures and briefs on potential in-flight stressors for aircrews to promote aviation safety and decrease potential for aircraft mishaps.^{16,24} • Conduct frequent and regular aerial flights in all types of aircraft supported units as required.^{17,19} • Assist the unit aircrew ALSE shop with Class VIII support and survival education.²⁵
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Table 16-4 continued.

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Conclusion

The duties of the APA are vital to the operational aspects of their assigned unit's AMP. An APA has a unique role in which clinical and nonclinical duties are interwoven. The main mission of the APA is to support the AMP in order to achieve mission success. This is accomplished by ensuring medical readiness and emphasizing the importance of aviation safety to prevent personnel injuries and fatalities.

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