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Clinic to Cockpit: Analysis of Aviator Grounding Periods Due to Psychiatric Disorders

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14. ABSTRACT

The process to return U.S. Air Force aviators to flying status due to psychiatric conditions involves multiple parties and can be lengthy. We examined grounding periods in a sample of aircrew to determine the causes of grounded time and to explore possible improvement in the waiver system. The authors examined aeromedical records of 41 aviators treated with antidepressant medication to determine three metrics: total days grounded, days utilized by the flight surgeon/major command to refer the case to the Aeromedical Consultation Service (ACS), and days from receiving the referral to initiating the psychiatric evaluation at the ACS. A diverse range of duty positions was included in the study, with pilots (31.71%) representing the largest single group. For aviators treated with antidepressant medication, total grounded time averaged 497.17 days (standard deviation (SD) = 212.60), with a range of 236-1035 days. The number of days that the flight surgeon/major command took to refer the case to the ACS was 234.77 (SD = 109.15), with a range of 120-730 days. Finally, the number of days that ACS took to schedule an aviator for evaluation was 49.95 (SD = 34.74), with a range of 6-176 days. Treatment and stabilization combined accounted for 80% of the grounded time. Although there are opportunities to decrease grounded time through the actions of flight surgeons and the ACS, and the potential to lessen the required 180-day period of stability, aviators themselves hold the key to a more rapid return to the cockpit.

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1.0 SUMMARY

The process to return U.S. Air Force aviators to flying status due to psychiatric conditions involves multiple parties and can be lengthy. We examined grounding periods in a sample of aircrew to determine the causes of grounded time and to explore possible improvement in the waiver system. The authors examined aeromedical records of 41 aviators treated with antidepressant medication to determine three metrics: total days grounded, days utilized by the flight surgeon/major command to refer the case to the Aeromedical Consultation Service (ACS), and days from receiving the referral to initiating the psychiatric evaluation at the ACS. A diverse range of duty positions was included in the study, with pilots (31.71%) representing the largest single group. For aviators treated with antidepressant medication, total grounded time averaged 497.17 days (standard deviation (SD) = 212.60), with a range of 236-1035 days. The number of days that the flight surgeon/major command took to refer the case to the ACS was 234.77 (SD = 109.15), with a range of 120-730 days. Finally, the number of days that ACS took to schedule an aviator for evaluation was 49.95 (SD = 34.74), with a range of 6-176 days. Treatment and stabilization combined accounted for 80% of the grounded time. Although there are opportunities to decrease grounded time through the actions of flight surgeons and the ACS, and the potential to lessen the required 180-day period of stability, aviators themselves hold the key to a more rapid return to the cockpit.

2.0 INTRODUCTION

To preserve and monitor the medical and psychological readiness of aircrew, the U.S. Air Force (USAF) employs a waiver system. Although aviators are selected in part based on their lack of a psychiatric treatment history and overall psychological health [1], they are not immune from developing psychiatric disorders. And given the rigors of balancing the oftentimes competing demands of work and family, it is not surprising that a minority of aviators do develop mental health conditions that require treatment [2-4]. When they do need psychiatric care, the waiver system provides a framework for the treatment and subsequent surveillance of these highly trained assets.

At the heart of the waiver system sits the flight surgeon [5,6]. The flight surgeon is responsible for ensuring that aviators receive appropriate treatment for their psychiatric disorder. As the first line of health care, the flight surgeon often identifies changes in an aviator's emotional disposition and provides a referral to the mental health clinic. Once at the mental health clinic, treatment in the USAF is typically provided by one of three specialties (psychology, psychiatry, or social work) or some combination of the three depending on the recommended treatment and staffing capabilities of the clinic. An aviator receiving a psychiatric diagnosis is temporarily grounded, as most psychiatric disorders include significant distress or functional impairment [7], which would lead to serious concerns regarding safety of flight. At this point, the focus is on clinical improvement. Whether the method is a variant of psychotherapy, an aeromedically approved antidepressant medication, or a combination of the two, the treatment team is focused on helping the aviator achieve treatment gains to return to baseline functioning.

For aviators with a mood disorder or most other grounding psychiatric conditions, USAF regulations state that they must remain stable for a minimum of 6 months prior to receiving a waiver to return to full flying duties [8]. The USAF regulation is similar to those from the U.S. Army, U.S. Navy, Federal Aviation Administration, and Transport Canada [9-12], which all require periods of stability ranging from 4 months to 1 year. In the USAF, once the aviator is stable for a minimum of 6 months while treated with an antidepressant, he or she becomes eligible to receive a waiver to return to flight duties. To accomplish this, the flight surgeon sends an aeromedical summary of the case to the chief flight surgeon of their major command (MAJCOM), who then forwards the case to the Aeromedical Consultation Service (ACS). As all aviators taking antidepressants meet criteria for placement into the Antidepressant Study Group, they will be scheduled for a week-long comprehensive psychiatric/psychological evaluation at the ACS at Wright-Patterson Air Force Base to verify treatment gains and remission of symptoms. From the ACS evaluation will come a recommendation regarding the aviator's flying status (typically a thumbs up or down) that will be forwarded to the MAJCOM, where final disposition of the aviator is decided.

The entire process from the clinic to return to the cockpit can be lengthy. The purpose of this study is to assess just how long the process can be for a typical aviator treated with an antidepressant, and how efficiently flight surgeons, MAJCOMs, and the ACS perform the roles they play within the waiver system.

3.0 METHODS

As the study group resembled occupational health practice and was not designed to contribute to generalizable knowledge, the study group was reviewed and deemed not to require Institutional Review Board oversight.

This study comprises 41 USAF members seeking to return to flying status (Table 1). The sample was taken from a larger sample of an antidepressant study group that is seeking to follow aviators longitudinally. Members were excluded from this study if they were seeking an initial flying class waiver (i.e., they had never previously been on flying status) or if they had discontinued taking antidepressant medication. These exclusions were put in place to ensure uniformity across subjects. As a goal of the study is to assess how effectively waiver cases are being managed administratively, antidepressant cases provide an ideal situation in which to examine the efficiency of the system.

Current USAF policy states that aviators with a mood or anxiety disorder must demonstrate psychiatric stability for a minimum of 6 months; that is, they must have returned to baseline or better functioning for at least 6 months prior to waiver consideration. Additionally, all antidepressant cases are to be reviewed by the ACS, which has been given the authority to manage the study group. This gives a specific time frame by which we can measure three different factors. The first is the total amount of time (in calendar days) that an aviator went from initiating treatment (and being grounded) to receiving a waiver recommendation. This measures overall lost productivity due to time necessary for treatment, recuperation, and administrative time.

Table 1. Demographics of Group

Demographic	n=41	
	n	%
Gender		
Male	34	82.93
Female	7	17.07
Age Range (yr)		
26-30	10	24.39
31-34	9	21.95
35-39	14	34.15
40+	8	19.51
Marital Status		
Married	31	75.61
Single	10	24.39
Grade		
Officer	21	51.22
Enlisted	20	48.78
Duty Position		
Pilot	13	31.71
Other Enlisted[a]	12	29.27
Loadmaster	5	12.20
Sensor Operator	3	7.32
Navigator/Electronic Warfare Officer	3	7.32
Flight Surgeon	2	4.88
Boom Operator	2	4.88
Missile and Nuclear Operations Officer	1	2.44
Waiver Outcome		
Waiver Recommended	34	82.93
Disqualified	7	17.07

[a]Other enlisted duty positions include Flight Engineer, Special Duty Operator, Air Traffic Controller, Air Weapons Controller, Linguist, Special Missions Aviation, Aeromedical Evacuation Technician, and Flight Attendant.

The second data point being assessed is the efficiency of flights surgeons and their MAJCOMs in providing required documentation to the ACS 6 months after the aviator achieved baseline functioning. The closer to the 180-day mark that a case makes its way to the ACS, the less grounded time the aviator and USAF incur. There is some clinical judgment, however, in determining when the aviator achieved psychiatric stability. For this study, all cases were reviewed by the lead author, who had access to full mental health records. Whenever possible, results from objective psychological measures were used to determine the absence of symptoms. When not available, contemporaneous clinician opinion was utilized.

The third metric is the number of days from the ACS case review to the date of evaluation. It is challenging to find parallels to the week-long intensive psychiatric evaluation that occurs at the ACS and to determine what should be the expected wait time. Guidance from Air Force Instruction 48-123 regarding scheduling timeframes is nonspecific, stating, "The ACS will make every effort to schedule appointments as soon as possible after waiver authority request" [13]. An additional consideration is that aviators who are evaluated are rarely local. They travel from all over the world to attend the evaluation, adding further complications of scheduling around work, family, and other practical issues. Even so, having some comparison is important to help us address the efficiency of ACS scheduling. One possible example is in Air Force Instruction 44-176, which describes the maximum wait time for a mental health appointment as 28 days [14]. This is for a local 90-minute assessment, not a week-long temporary duty assignment with assessments provided by multiple specialists in addition to neuropsychological testing. However, as there were no clear guidelines or comparisons, we chose 28 days to be an ideal timeframe to schedule an ACS evaluation.

4.0 RESULTS

The mean grounded time was 497.17 days (standard deviation (SD) = 212.60), with a range of 236-1035 days (Table 2). The second metric being evaluated, the number of days that the flight surgeon/MAJCOM took to refer the case to the ACS, was 234.77 days (SD = 109.15), with a range of 120-730 days. The third metric, the number of days that ACS took to schedule an aviator for evaluation, was 49.95 days (SD = 34.74), with a range of 6-176 days.

Table 2. Grounded Time by Organization (Calendar Days)

Organization	n=41		
	Mean	**SD**	**Range**
Treatment	240.45	223.90	20 to 870
Stabilization	180.00	NA	NA
Flight Surgeon/MAJCOM (days ± 180 stabilization period)	54.77	109.154	-60 to 550
ACS (time to schedule evaluation)	49.95	34.74	6 to 176

Categories of grounded time to include administrative lag time (i.e., potential inefficiencies) are illustrated in Figure 1. On average, the flight surgeon/MAJCOM took an additional 55 days beyond the 180-day ideal timeframe, representing 11% of the total grounded days. For the ACS, an additional 22 days beyond the ideal was needed to schedule and evaluate aviators, representing 4% of the total grounded time.

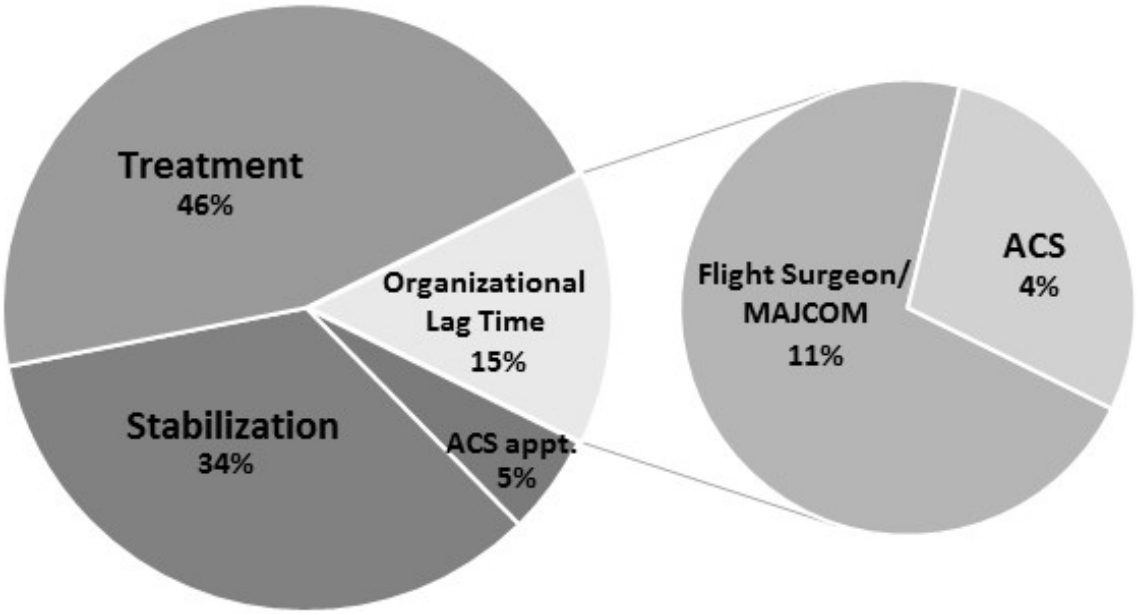

Figure 1. Categories of grounded time (497.17 days).

5.0 DISCUSSION

Our study found that most aviators took well over 1 year from the point they began their mental health treatment to the time they were cleared to return to their aviation-related duties. However, only 15% of this time reflected inefficiencies that could potentially be the result of the waiver system (i.e., administrative time). Rather, most of the time spent grounded was utilized to receive treatment and demonstrate psychiatric stability over the mandatory 6-month waiting period. Flight surgeons, who are largely responsible for ensuring that aviators have demonstrated 6 months of stability prior to being returned to flying status, took an additional 55 days over the mandated 180-day waiting period to refer aviators to the ACS. One reason this might have occurred is that the "date of stability" is based on clinical judgment, which can reasonably differ from provider to provider. Another possibility is that flights surgeons want to ensure that their aviators have fully demonstrated emotional stability for a minimum of 6 months; that is, they may be conservative in the management of flyers under their care, desiring to maximize the likelihood that they are fully recovered prior to waiver consideration. The ACS also failed to meet their ideal timeframe of 28 days to schedule an evaluation, taking an additional 22 over this mark. Again, there can be multiple reasons for this outcome. An obvious one is that the ACS does not mandate when an aviator is evaluated, so an aviator may simply choose an evaluation date that is well into the future. In fact, it is not unusual for an aviator to request an appointment date weeks or even months after one has been offered by the ACS. Another is that some of the cases during ACS review were deemed to not have achieved the 180-day threshold of stability; thus, the evaluation was not able to be scheduled until that guideline was satisfied. Even with these limitations, the ACS improved access to evaluations and shortened wait time for aviators in 2017. Examining results from ACS evaluations occurring in 2017, wait times were lowered to an average of 31 days, very near the goal suggested by this paper.

Although flights surgeons, their MAJCOMs, and the ACS play pivotal roles, there are many more stakeholders involved in the waiver process. These include the aviator's mental health providers, who often schedule psychotherapy sessions every other week rather than weekly due to their staffing demands. In fact, a common complaint heard from aviators is that they get tired of repeatedly telling their story to the rotating group of treating providers. Another frequent holdup is lack of proper documentation submitted for ACS review prior to scheduling. For example, missing treatment records, often psychiatric hospitalization or alcohol treatment documentation, can delay disposition of cases. These records can be difficult for flight surgeons or staff at the ACS to obtain, particularly when treatment was provided by nonmilitary organizations. There can also be operational impediments (e.g., scheduled trainings/temporary duty assignments) to both receiving treatment and scheduling availability for ACS appointments. Although there are many moving parts in this process, the biggest stakeholder is the aviator. And while the goal of those involved in the treatment and disposition of the aviators is to successfully treat and return the aviator to flying status as soon as possible, aviators can have their own objectives. The following case may be useful to demonstrate the complexities involved.

5.1 Case Example A

Capt A was a 29-year-old male Air National Guard A-10 pilot with 500 total military flying hours. He was diagnosed in mid-2012 with generalized anxiety disorder after reporting concerns about flight preparation, his ability to adequately perform his duties as a pilot, ruminating about the safety of his children and career, and frequent gastrointestinal upset. He reported the symptoms started shortly after completing A-10 training. He was initially treated with sertraline 50 mg, which controlled his symptoms, leading to discontinuation of the medication in late 2012. However, he restarted sertraline 100 mg due to low-level anxiety 1 year later and was seen regularly by a psychotherapist. The case was not received by the ACS until early 2015, nearly 3 years after Capt A began receiving treatment. His commander held Capt A partly responsible for his remaining disqualified for flying duties for such a long period, citing his low assertiveness and lack of concern regarding returning to flying status. Psychological testing performed at the ACS noted elevated levels of depression and anxiety, in addition to significantly increased neuroticism (i.e., susceptibility to emotional distress) compared to his baseline testing. Thus, a waiver was not recommended and he has not returned to flying duties. This case speaks to the importance of aviator motivation in driving periods of grounding. It also illustrates that not all aviators who seek mental health treatment are able to achieve emotional stability and return to full duties. With our sample, however, the vast majority of aviators (83%) were returned to flight status.

Alternatively, the following case is an example of one referred and scheduled in an optimal manner. It also demonstrates both the resiliency of aviators and their aversion to seeking help through the mental health system.

5.2 Case Example B

Maj B is a 35-year-old female EC-130 combat systems operator with more than 1200 military flying hours. She developed symptoms consistent with posttraumatic stress disorder following a near-mishap in 2012 during which her EC-130 barely missed hitting the side of a mountain while deployed. She blamed herself for the near-mishap, although she was not at fault.

Back home, she found herself uptight, quick to anger, and less interested in interacting with her family. She compensated by staying longer at work, with a predictably negative impact on her marriage. Even with her deterioration in mood she continued to function at a very high level at work, at home station, and while deployed. Then, in 2016, in the context of multiple situational stressors, her coping abilities were overwhelmed and she began to exhibit somatic symptoms to include exhaustion and feeling lightheaded and queasy. When multiple examinations were unable to identify an underlying medical etiology, she was referred for a mental health evaluation, which identified the presence of long-standing posttraumatic stress symptoms overlaid with situational stressors. Treatment consisted of 20 sessions of psychotherapy and antidepressant medication. Her symptoms stabilized by early 2017. Her case was referred to the ACS 180 days after she achieved stability, and she was evaluated 19 days later and returned to flying status. Overall, she was grounded a total of 365 days. Administratively, very little could have been done to speed up the process. Once treatment began, she was an active patient and recovered in a timely way.

If the goal is to decrease grounded time, perhaps the biggest chunk of recoverable time lies in the 180-day stabilization period. Very few medical conditions outside of psychiatry require periods of stability, with some notable exceptions such as cancers [15]. However, essentially all psychiatric disorders require at least a 180-day period of stability, with psychotic and somatoform disorders requiring a full year of demonstrated stability. The rationale behind the waiting period in the mental health care of aviators has been the high rates of recurrence [16,17], particularly within the first year after stabilization [18]. Even so, it seems that the timeframes stipulated in the waiver guide are somewhat arbitrary. If the goal is to hasten aviators back to flying status, eliminating or decreasing this mandatory stability period may yield the best "bang for the buck" of available options. The trade-off would be a loss of the same amount of time in observation and additional treatment to better ensure that the aviator has gained maximal benefit from his or her condition. Perhaps a reasonable middle ground may be the 3-month period of stability needed prior to deploying after treatment with antidepressants.

5.3 Limitations

First, our study focused only on aviators who are treated with antidepressant medication. There may be characteristics of these aviators and their cases that are not generalizable to the bulk of aviators with psychiatric conditions. For example, aviators who choose antidepressant medication as a treatment option may take longer (or shorter) to return to baseline functioning than those who choose psychotherapy only. Second, as noted above, determining a "hard date" for when an aviator returns to baseline functioning is not always obvious. Although the authors made every attempt to utilize objective data contained in the record, there remains some subjectivity in that determination.

5.4 Conclusion

This study found that the waiver system is working as intended; that is, the aviators in our sample were identified, treated, and a large majority were ultimately returned to flying status. Down time for aviators with mental health conditions is notable, however, averaging 1.36 years. Opportunities for improving efficiencies exist and should be carefully considered. The primary area where this can occur is reconsideration of the mandated 6-month waiting periods. Within

the waiver system itself, decreases in grounded time can also be obtained through a flight surgeon's adherence and focus on marking the point at which an aviator is stable and quicker scheduling for waiver evaluations. Perhaps the largest potential enhancement is under the control of the aviators themselves, as they hold the key to maximizing their treatment through advocating for timely services and adherence to provider recommendations.

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LIST OF ABBREVIATIONS AND ACRONYMS

ACS	Aeromedical Consultation Service
MAJCOM	major command
SD	standard deviation
USAF	U.S. Air Force